HealthScope

Reporting to Newfoundlanders and Labradorians on Comparable Health and Health System Indicators

Partnering for Health

Department of Health & Community Services

Prepared by

for the Department of Health and Community Services,
Government of Newfoundland and Labrador

September 2002

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Foreword

Gerald Smith, M.H.A.
Minister of Health
and Community Services

I am pleased to present *Health Scope*, a report on health performance indicators for the province of Newfoundland and Labrador. This report is an important reference document for our province as it identifies indicators that address health status, outcomes of health services, and quality of health services. It compares these indicators with those of the other Atlantic provinces and Canada, as a whole.

Since September 2000, health ministries across the country have been working to select and report on a set of comparable health indicators. Together, the provinces, territories, and the federal government agreed upon 14 indicator areas for reporting. Each province was then required to prepare its own report focusing on the 14 indicator areas. This marks the first time that health ministries across the country have reported to their people on a set of comparable health indicators.

Health Scope indicates that, overall, Newfoundland and Labrador is comparable with the rest of Canada on health status and outcomes and quality of health services. However, there is need for improvement in the areas of cardiovascular disease and underlying lifestyle factors such as smoking, physical activity, and obesity rates.

The release of this report complements *Healthier Together: A Strategic Health Plan for Newfoundland and Labrador* which details a number of targets and indicators. *Health Scope* provides us with a number of benchmarks which will assist in our evaluation of the health and community services system. The use of targets and indicators will help us develop a profile that outlines our strengths and weaknesses, thus enabling us to create a system that is in line with the needs of the population.

This report is the first step toward regular health system performance reporting to the people of Newfoundland and Labrador. This is another example of the Government of Newfoundland and Labrador's continuing commitment to accountability within the health and community services system.

GERALD SMITH, M.H.A
District of Port au Port
Minister of Health and Community Services

Statement of Responsibility

GOVERNMENT OF
NEWFOUNDLAND AND LABRADOR

Department of
Health and Community Services

Responsibility for preparation of this Report rests with the Department of Health and Community Services. The responsibility of the Department includes ensuring that the information is objective, complete, accurate, and fairly presented, in accordance with agreed reporting requirements.

In preparing the Report, the Department relied on information provided from various sources as indicated throughout the Report. The Department's responsibility for such information is limited to being reasonably confident that it is free of significant misrepresentation.

To the best of our knowledge, the information in the Report is reliable. The Report has been prepared in accordance with the following criteria, unless otherwise stated in the Report.

- The information reported meets the requirements of the commitment of the First Ministers' Meeting Communiqué on Health dated September 2000. The health indicators comply with the definitions, technical specifications and standards of presentation approved by the Conference of Deputy Ministers of Health.

- The reported indicators fairly reflect the facts to a reasonable level of accuracy.

- The indicator measures are defined, and their significance and limitations are explained. The Department of Health and Community Services will continue to work towards improvements in the breadth of the data for future reporting. The Report states and properly describes any departures from what was approved by the Conference of Deputy Ministers.

The Auditor General of Newfoundland and Labrador has reported on the results of applying specified auditing procedures to the Health Scope Report. The report of the Auditor General on the results of applying specified auditing procedures forms part of this Report.

ROBERT THOMPSON
Deputy Minister
Department of Health and
Community Services

September 2002

OFFICE OF THE AUDITOR GENERAL
St. John's, Newfoundland and Labrador

Report on the Results of Applying Specified Auditing Procedures

To the Minister of Health and Community Services
St. John's, Newfoundland and Labrador

As specifically agreed, I have performed the following procedures in connection with the information presented in the Department of Health and Community Services' Report entitled *Health Scope, Reporting to Newfoundlanders and Labradorians on Comparable Health and Health System Indicators*, dated September 2002. The information provided in the report is management's representation of the results achieved in the health indicator areas identified pursuant to the commitment under the First Ministers' Meeting Communiqué on Health, dated 11 September 2000. The Conference of Deputy Ministers of Health defined the specific indicators within the identified health indicator areas, which are to be reported to Canadians. I have:

- verified that the statistics used as a basis for the Department's report, indicated as originating from an independent source such as Statistics Canada, the Canadian Institute for Health Information, and Health Canada, agreed with the stated sources;

- verified that the statistics indicated as originating within the Department of Health and Community Services, the Health and Community Services Regions and Integrated Health Boards, and other Provincial sources, agreed with the stated sources;

- tested the calculations used to convert source information into reported results; and

- verified compliance with the requirements and guidelines for indicator presentation as provided in the *Plan for Federal/Provincial/Territorial Reporting on 14 Indicator Areas*, as developed by the Performance Indicators Reporting Committee on behalf of the Conference of Deputy Ministers of Health, dated 22 July 2002.

As a result of applying the above procedures, I found no exceptions. However, these procedures do not constitute an audit of the Department's report and therefore I express no opinion on the information presented therein.

Health indicator reporting is a new and important accountability initiative for Newfoundland and Labrador, and Canada. I am encouraged by the work undertaken by the Department in the preparation of this report. As disclosed in the report, better reporting requires improvement in the completeness and reliability of data.

JOHN L. NOSEWORTHY, C.A.
Auditor General

St. John's, Newfoundland and Labrador
11 September 2002

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Executive Summary

In September 2000, the First Ministers agreed to report to Canadians on health status, health outcomes, and the quality of health services offered across this country. Health Ministers worked together to develop a set of comparable indicators that could be used to address these three areas of health. This report presents information for Newfoundland and Labrador, the other three Atlantic provinces, and Canada as a whole.

Health Status

When asked about our **general health**, the people of this province report themselves to be in very good or excellent health (66.2%); a rate higher than that for Canadians overall (61.4%).

Overall, the health status of Newfoundlanders and Labradorians is comparable to that of the rest of Canada. We were **expected to live** about the same number of years (77.7 years for NF and 79.0 for Canada), and to live about the same number of those years **disability-free** (68.1 years for NF and 68.6 for Canada). For both NF and Canada, women were expected to live approximately five more years of their lives disability-free than males, and to live five years longer.

The **infant mortality** rate for NF (4.9 per 1,000 live births) was also comparable to the Canadian rate (5.3 per 1,000). Furthermore, the percentage of **low birth weight** births in NF and the country (5.0% and 5.5% respectively) are the result of a general decline in the rates over the past several years.

Health Outcomes

Among males, the incidence of **lung cancer** in NF (65.9 per 100,000 residents) is still much higher than among females (23.7 per 100,000), as is the trend in the country (79.4 for males and 41.9 for females). The rate of death due to lung cancer is 29.8 for every 100,000 females and 79.4 per 100,000 males. Tobacco smoke is the predominant cause of lung cancer, and second hand smoke is the number one risk factor for non-smokers.

As in Canada, the incidence rate of **colorectal cancer** in NF is higher for males (63.5 per 100,000) than females (48.1 per 100,000), with the female rate decreasing and the male rate continuing to rise over time. The mortality rate for colorectal cancer is higher in NF (21.2 per 100,000) than in Canada (19.1 per 100,000) but is decreasing over time.

The incidence of **breast cancer** in NF was 84.4 for every 100,000 women, which was lower than the other Atlantic Provinces and Canada (102.0 per 100,000). The number of women dying from breast cancer in NF (22.9 per 100,000) is comparable to the Canadian rate (25.2 per 100,000) and appears to be stabilizing.

Overall trends in Canada and NF show an increase in **prostate cancer** incidence over time, with a lower rate in NF (95.6 per 100,000) at present compared to Canada (115.0 per 100,000). Deaths due to this type of cancer are on the rise, with NF rates (32.4 per 100,000) higher than the Atlantic Provinces and Canada (26.7 per 100,000).

The mortality rate for **heart attacks**, or acute myocardial infarction (AMI), in NF (71.9 per 100,000) was still the highest in Canada (60.2 per 100,000), however, the rate has been decreasing over time. Similarly, the rate of death due to **stroke** is still the highest in this province (46.3 per 100,000) compared to all of Canada (37.0 per 100,000), but has also been declining over time.

In NF, 5.8% of the population over age 12 report having been diagnosed with **diabetes** compared to the national reported rate of 4.1%. The number appears to be rising in this province. The long term complications of diabetes include heart disease and stroke.

Quality of Service

Modifiable risk factors such as physical inactivity, obesity, and smoking are at high rates in this province. These risk factors are associated with heart attacks, stroke, and diabetes, and are a reflection of our public health promotion and prevention system. The NF adult population is less likely to report being **physically active** (38.1%) than the Canadian population as a whole (42.6%), and this number has not increased to any great extent over the past five years. The NF population is also less likely to be of an **acceptable weight** (38.4%) than the average Canadian (48.3%). The number of current **smokers** among the NF teenage population (age 12 to 19), although on a declining trend since the mid 1990's, is still at a current rate of 18.3%. This rate is comparable to the overall Canadian rate for teens (18.7%).

The relationship between **second hand smoke** (or environmental tobacco smoke) and adverse health is also well accepted and is linked to increased mortality from lung cancer and cardiovascular disease. There was little difference between the rate of exposure to second hand smoke in the NF adult population (28.3%) and the Canadian population (25.8%), however a higher proportion of youth aged 12 to 19 in this province (51.9%) reported being regularly exposed to second hand smoke than youth in Canada (39.3%).

Incidence rates of various **food, water, and airborne diseases** reflect the level of public health surveillance and protection. Incidence of tuberculosis (TB) in NF has remained relatively low over the past decade with one of the lowest incidences in Canada (1.9 cases per 100,000). New diagnoses of HIV (the virus that causes AIDS) infections have decreased in NF over the past 15 years, accounting for only 0.4% of cases in Canada. The incidence of E. Coli has also remained relatively stable in NF over the past decade with less than 1 case per 100,000 in 2001.

Level of accessibility to services is demonstrated by indicators on wait times for certain services. Coronary artery bypass grafting (**CABG**) is a common heart surgery and wait times can be long. With an average of 40 to 60 surgeries monthly, it took an estimated 4 to 5 months to clear the wait list each quarter year in NF (there was no comparable data for Canada). However, about half the patients receiving the surgery underwent the procedure within two weeks of having been put on the wait list.

The maximum **recommended** wait for radiation treatment for cancer in Canada is 4 weeks, while the **actual** average wait in Canada is 8.9 weeks. The estimated number of weeks to clear the **wait list for radiation therapy** for breast cancer in NF varied by quarter from 6 to 8 weeks. For prostate cancer the range was 8 to 10 weeks.

When considering the overall quality of health care service provided in this province, Newfoundlanders and Labradorians reported themselves to be very or somewhat satisfied with **overall health services** received in the past year at a higher rate (88.1%) than did the overall Canadian population (84.6%).

Summary

Overall, our health status is comparable to the rest of Canada. NF was comparable to the national rate for over three quarters of the indicators presented in this report. However, our high rates for modifiable risk factors such as smoking, physical inactivity, and obesity continue to affect our health and the mortality rates for heart attacks and stroke (making them the highest in the country) and for some cancers. The information provided in this report around these and other indicators can be used to help further assess the health status of our province in comparison to the Atlantic region and Canada as a whole. This report will also provide some evidence to support programs and policies, and identify gaps in the health status and services offered to the population of our province.

Introduction

Traditional measures of the health of a population have focused on the presence or absence of disease and the prolonging of life. More recently, governments have decided to look at levels of health services utilization and the outcomes of care, in addition to these traditional measures.

It is the responsibility of the health and community services system to ensure that resources are in place that will help prolong a quality life that is free of disease or impairment and help individuals manage when they are afflicted with illness or injury. Our health is dependent not only on access to primary care services, but also on our lifestyle, our physical and social environments, and our genetic makeup. Individuals must also take responsibility for their own health by adopting healthier lifestyles and using the health system wisely.

In September 2000 all First Ministers in Canada issued a Communiqué on Health. Health Ministers were asked to provide comprehensive and comparable reporting to the public on the health programs and services they deliver, on health system performance and on progress toward the priorities set forth in the Communiqué. All jurisdictions were asked to collaborate on the development of a comprehensive framework using jointly agreed comparable indicators, and reporting was to begin in September 2002. Three main health areas were identified for reporting in the Communiqué: Health Status, Health Outcomes, and Quality of Service.

Several benefits to be realized through comparable reporting were identified. These include:

- Improved accountability to the public;
- Improved public understanding of health system performance;
- Improved decision-making;
- Promotion of best practices; and,
- Enhanced health system performance.

Health Ministers established a federal/provincial/territorial (FPT) committee, the Performance Indicators Reporting Committee (PIRC), which developed the framework of jointly-agreed indicators in 14 required areas, addressing the three main health areas, as outlined in the Communiqué. In addition, PIRC developed common guidelines for the preparation of indicator reports by jurisdictions, in order to improve their usefulness to the public.

Recommendations regarding specific indicators for the 2002 reports were guided by the following criteria: relevance for a public audience/focus on public concerns; easily understood by the public; technical merit; likelihood of achieving reasonable agreement on concepts, methods and data; availability of comparable data by 2002; and amount of work needed to achieve comparable reporting.

It is important to recognize that it is difficult to assess the overall health status, health outcomes, and quality of service of our health and community services system based on these selected indicators alone. The indicators presented here are only a sample of the possible measures of the three main health areas.

Information in this Report has been presented for all Atlantic provinces - Newfoundland and Labrador, Prince Edward Island, Nova Scotia, and New Brunswick - in order to compare Newfoundland and Labrador with other jurisdictions having similar demographics, health programs, and way of life. Information has also been presented for Canada as a whole.

Health Status

Indicators in this category are intended to reflect population health status. The health status of a population is generally assessed by the absence of disease or the postponement of death. This first section compares the health status of Newfoundlanders and Labradorians to the other Atlantic provinces, and to Canada as a whole. The four indicator areas presented here include: Life Expectancy, Infant Mortality, Low Birth Weight, and Self-Reported Health.

Life Expectancy is a traditional indicator of the health of a population and is complemented by Disability-Free Life Expectancy which estimates the number of years that will be lived in good health. Infant Mortality (number of infants who die in the first year of life) is a long-standing indicator of the health of a population that reflects the health of mothers and their children. The same is true of Low Birth Weight (less than 2500 grams or 5.5 pounds at birth). Self-Reported Health indicates how we rate our own health.

Life Expectancy

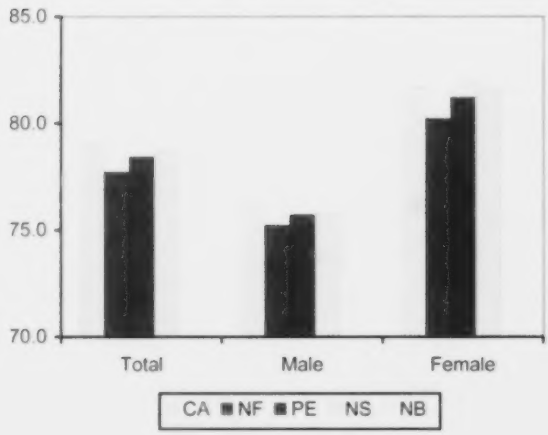
Life Expectancy

Life Expectancy (LE) is the number of years a person would be expected to live, starting from birth (for life expectancy at birth) or at age 65 (for life expectancy at age 65) on the basis of the mortality statistics for a given observation period, typically a calendar year.

Life expectancy is a widely used indicator of the health of a population. It is typically expressed as the expected number of years of life at birth, and is based on mortality and census data. Life expectancy is not the number of years an *individual* newborn (or person currently age 65) can expect to live. It is the average number of years that a cohort or group of individuals born the same year are expected to live. It is an indicator of quantity of life rather than quality of life.

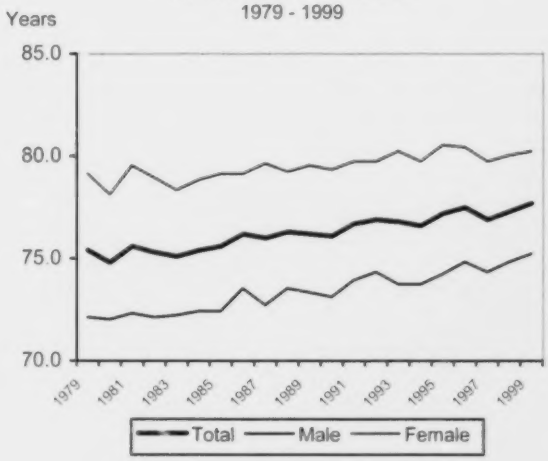
In the early 1900's, life expectancy in Canada was as low as 47 years for men. Nearly a century later, we see a substantial increase in the age to which we are expected to live. In 1999, life expectancy at birth reached record highs. The total life expectancy in Canada was 79.0 years (81.7 years for females and 76.3 years for males). Newfoundland and Labrador has seen a similar increase in life expectancy over the past several decades. From 1979 to 1999, life expectancy at birth increased by 3.1 years for males (from 72.1 to 75.2 years) and 1.1 years for females (from 79.1 to 80.2 years). The improvement in life expectancy over the past several decades has been largely due to a decrease in infant mortality. The decline in mortality rates for leading causes of death (cancer, cardiovascular disease and injuries) has been the strongest influence on the increase in life expectancy in more recent years.

Life Expectancy at Birth by Gender
Canada and Atlantic Provinces
1999



Source: Statistics Canada, Vital Statistics, Birth and Death Databases and Demography Division

Life Expectancy at Birth by Gender
Newfoundland and Labrador
1979 - 1999



Source: Statistics Canada, Vital Statistics, Birth and Death Databases and Demography Division

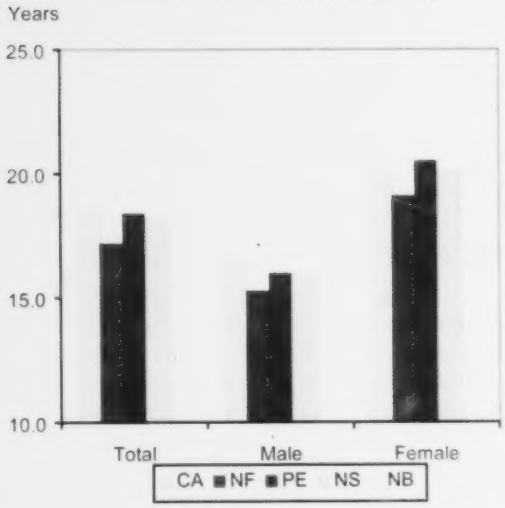
Life expectancy is related to socioeconomic factors such as poverty and education level. Smoking, obesity, sedentary lifestyle and high blood pressure have also been identified as having a negative influence on life expectancy.

In 1999, the highest life expectancies worldwide were in Japan, where females born that year were expected to live to 84.1 years and males to 77.3 years. In developed countries, life expectancy is generally higher for females than for males, however, this gap between the sexes has been slowly narrowing. Research has suggested that this is a result of the increase in female lung cancer rates and rapid decline in male cardiovascular mortality and deaths due to injuries.

Expectation of life can be calculated for any age. Life expectancy at age 65, for example, indicates the average number of remaining years of life expected for those who have reached 65 years of age. Progress in extending the average life span for those who live to age 65 years has been positive but less dramatic. In Newfoundland and Labrador, for example, life expectancy at age 65 increased by 0.7 years (from 16.5 to 17.2 years) between 1979 and 1999. This means that in 1999, individuals aged 65 years in this province were expected, on average, to live an additional 17.2 years to 82.2 years of age. Similarly, in Prince Edward Island, Nova Scotia, and New Brunswick, individuals aged 65 years in 1999 were expected to live to 83.4, 83.2, and 83.1 years, respectively. In Canada as a whole, life expectancy at age 65 years in 1999 was 18.5 years.

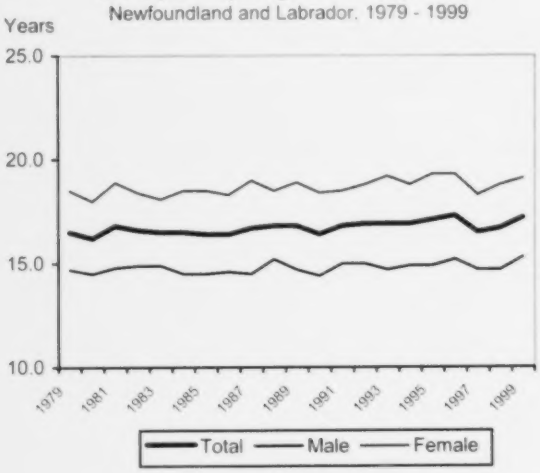
Expectation of life can be calculated for any age. Life expectancy at age 65, for example, indicates the average number of remaining years of life expected for those who have reached 65 years of age.

Life Expectancy at Age 65 Years by Gender
Canada and Atlantic Provinces, 1999



Source: Statistics Canada, Vital Statistics, Birth and Death Databases and Demography Division

Life Expectancy at Age 65 Years by Gender
Newfoundland and Labrador, 1979 - 1999



Source: Statistics Canada, Vital Statistics, Birth and Death Databases and Demography Division

Disability-Free Life Expectancy

Disability-Free Life Expectancy (DFLE) is the number of years an average individual would be expected to live free of moderate or severe disability[1], starting from birth (for DFLE at birth) or at age 65 (for DFLE at age 65), on the basis of the mortality statistics and disability prevalence patterns by age and sex for a given observation period, typically a calendar year.

Disability-free life expectancy (DFLE) is an increasingly used indicator of the health of a population and complements conventional life expectancy measures. Like life expectancy, DFLE can be calculated for any age. It was developed to reflect the fact that not all years of a person's life are typically lived in perfect health, and takes into account both death rates and rates of disease in a population. Chronic disease, frailty and disability tend to become more prevalent at older ages. Therefore, a population with a higher life expectancy may not necessarily be healthier.

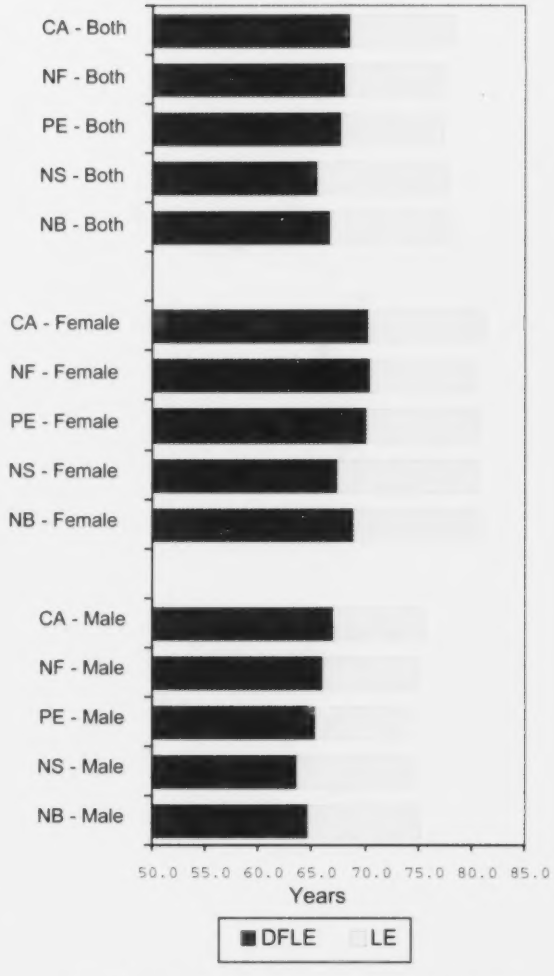
Canadians born in 1996 were expected to live disability-free to the age of 68.6 years. That same year in Newfoundland and Labrador, newborns were expected to live disability-free to 68.1 years. This was longer than was expected of newborns in Nova Scotia (65.5) and New Brunswick (66.6) in 1996.

A major question in regards to an aging population is whether an increase in life expectancy (LE) will be associated with a greater or lesser proportion of the future population spending their years living with disability. If DFLE is increasing more rapidly than LE, people are not only living longer lives, they are also living a greater proportion of their lives free of disability.

Physical disability is one of the major determinants of quality of life, and has a dramatic effect on the activities of daily life and the need for care. Numerous studies have found that cardiovascular disease is strongly associated with physical disability. Thus, delaying the onset of cardiovascular disease and other chronic conditions could greatly reduce the amount of time spent living with a disability.

[1] While various thresholds are possible, disability here is specified as moderate and severe disability, and/or those living in an institution.

Disability-Free Life Expectancy (DFLE) and
Life Expectancy (LE) at Birth
Canada and Atlantic Provinces, 1996



Source: Statistics Canada, Vital Statistics, Birth and Death Databases and Demography Division; Census (institutional population counts)

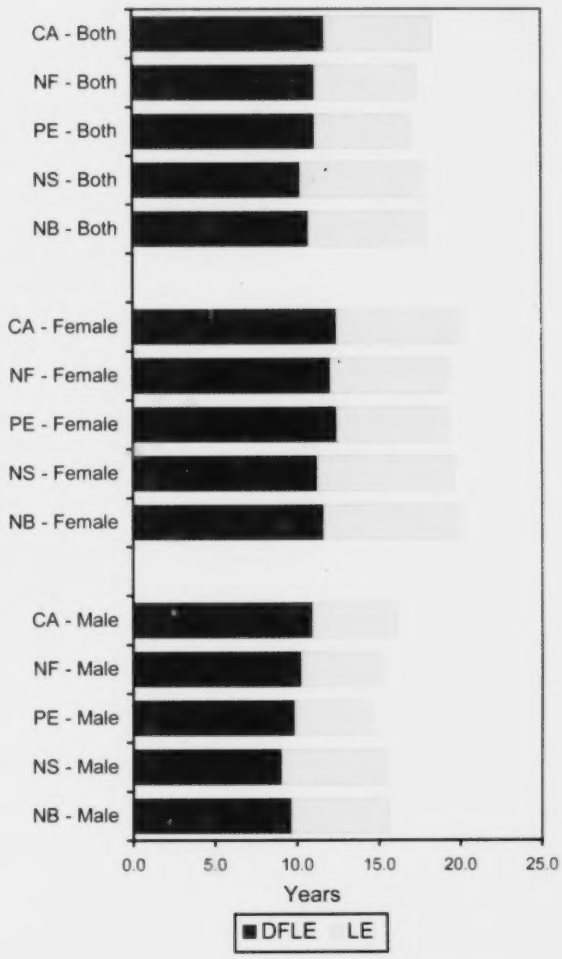
Hereditary factors, lifestyle habits, living conditions and environmental factors all have a role in the development of disease and onset of disability. Research has identified several preventable or modifiable risk factors that are important to the reduction of disability at older ages. These include smoking, obesity, physical inactivity and heavy drinking. Research has suggested that leading a healthy lifestyle will likely increase an individual's chances of being disability-free even in the presence of a major chronic condition, such as cardiovascular disease.

As with other Canadians, DFLE is higher for females in Newfoundland and Labrador (70.4 years) than for males (65.9 years). Contributing to this gender difference in DFLE might be the greater incidence of cardiovascular disease, stroke and respiratory disease among the male population. Research has found that females have higher rates of non-fatal and chronic diseases causing disability (such as arthritis), whereas males are more likely to suffer from fatal diseases. Since females have a longer life expectancy than males, it is possible that females will spend a greater proportion of their lives in a disabled condition.

Similarly, at age 65, disability–free life expectancy was higher for females (12.0 years) than for males (10.2 years) in 1996. The gap between the sexes seems to diminish with age. For example, the difference in DFLE at birth between Newfoundland and Labrador females and males was 4.5 years, while the gender difference in DFLE at age 65 for the same year was 1.8 years.

A major question in regards to an aging population is whether an increase in life expectancy will be associated with greater or lesser proportion of the future population spending their years living with a disability.

Disability-Free Life Expectancy (DFLE) and Life Expectancy (LE) at Age 65 Canada and Atlantic Provinces, 1996



Source: Statistics Canada, Vital Statistics, Birth and Death Databases and Demography Division; Census (institutional population counts)

Infant Mortality

Infant Mortality[2] is the number of infants who die in the first year of life, expressed as a rate (per 1,000 live births) for that year.

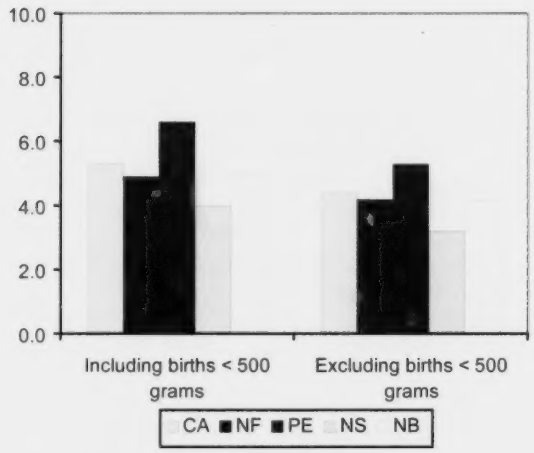
The infant mortality rate is a long-established measure of child health as well as the well-being of a society. It reflects not only the level of mortality, but also the health status and health care of a population. It reflects the effectiveness of preventive care and the attention paid to maternal and child health.

The trend in infant mortality rates for Newfoundland and Labrador has been quite similar to that of the rest of the country. In 1999, the infant mortality rate for Newfoundland and Labrador was 4.9 in every 1,000 live births, compared to the Canadian rate of 5.3 in every 1,000 live births. In Prince Edward Island, Nova Scotia, and New Brunswick, the infant mortality rates in 1999 were 6.6, 4.0, and 5.0 deaths per 1,000 live births, respectively. Of note is that in Newfoundland and Labrador, in 1998, the infant mortality rate increased from the previous year. This may be due to an unusually high number of multiple births reported for the province during that year.

In developed countries, an infant mortality rate of less than 4.0 is considered exceptionally good. Preliminary rates for Newfoundland and Labrador indicate that the infant mortality rate in 2000 was 3.3 infant deaths per 1,000 live births. Due to the increasingly low number of births in this province, this rate tends to fluctuate from year to year but has been decreasing overall.

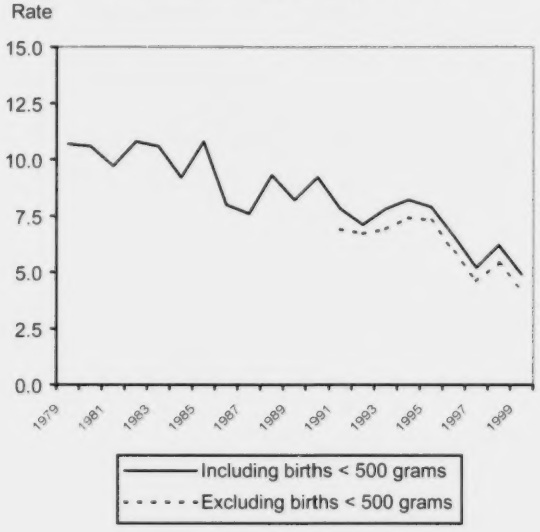
Over the last decade, Canada has had one of the most dramatic declines in infant mortality rates in the world. In 1993, however, there was an increase in infant mortality rates from the previous year. Research has suggested that this was due to increased registration of newborns weighing less than 500 grams as live births. This led to the recommendation that only infants weighing 500

Infant Mortality Rate
(per 1,000 live births)
Canada and Atlantic Provinces, 1999



Source: Statistics Canada, Vital Statistics, Birth and Death Databases

Infant Mortality Rate
(per 1,000 live births)
Newfoundland and Labrador, 1979 - 1999



Note: Infant mortality data which excludes births less than 500 grams is unavailable for Newfoundland and Labrador prior to 1991.

Source: Statistics Canada, Vital Statistics, Birth and Death Databases

[2] Please note that over time, there has been increased registration of live births with birth weight less than 500 grams. To improve comparability of this indicator over an extended period, infant death counts and infant mortality rates are calculated two ways, including and excluding live births with birth weight under 500 grams.

grams or more be included in infant mortality statistics.

Among the leading causes of infant death in Canada are birth defects such as congenital heart disease, disorders related to short gestation and low birth weight, and conditions that are less understood such as Sudden Infant Death Syndrome (SIDS). Of these, low birth weight is now considered the principal risk factor associated with infant mortality. Preterm births account for approximately 75-85% of all perinatal mortality[3] in Canada.

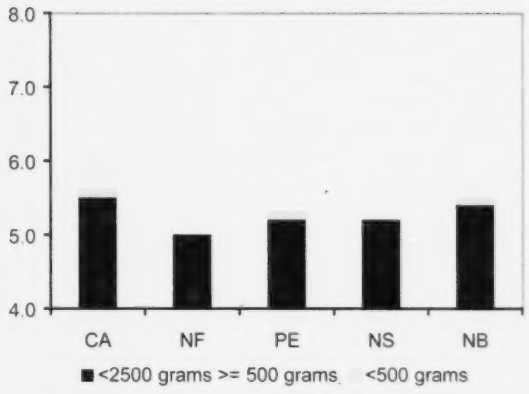
Many factors have been identified as having an influence on infant health and mortality. Research has shown that birth weight and multiple births are important determinants of infant mortality. In addition, specific maternal factors have demonstrated an association with infant mortality rates. Among these are socioeconomic status, educational level, maternal age, marital status, smoking status and substance abuse. In recent years, more attention has been directed towards health care accessibility and availability for mothers, children and pregnant women. Studies have shown that there is a definite advantage to infant health when special programs for pregnant women and newborn children are accessible and utilized early and often. In Newfoundland and Labrador, Healthy Baby Clubs are one example of a service offered to this population.

Low Birth Weight[4]

The proportion of live births (birth weight known) with a birth weight less than 2500 grams and at least 500 grams.

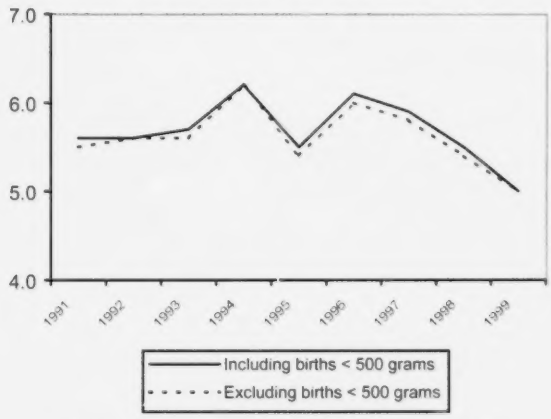
If a baby is born with a low birth weight (less than 5.5 lbs.), it may have been born too early (before 37 weeks, or preterm), it may not have grown enough during the pregnancy (small for gestational age), or both.

Percentage of Live Births
of Low Birth Weight
Canada and Atlantic Provinces, 1999



Source: Statistics Canada, Vital Statistics, Birth and Death Databases

Percentage of Live Births
with Low Birth Weight
Newfoundland and Labrador, 1991 - 1999



Source: Statistics Canada, Vital Statistics, Birth and Death Databases

[3] Perinatal mortality refers to stillbirths and deaths within the first seven days following birth.
[4] Birth weight information is not available for Newfoundland and Labrador prior to 1991.

Birth weight is an indicator of the general health of newborns, and a key determinant of infant survival, health and development. Low birth weight infants are at greater risk of dying during the first year of life, and if they survive, they have a greater risk of having serious health conditions such as respiratory illness, visual problems, learning disabilities and cerebral palsy. In addition to this, later in life, babies born with low birth weight are at increased risk for chronic conditions. The prevention of low birth weight has been the most important perinatal health issue in Canada.

While the majority of Canadian babies are born healthy, the incidence of low birth weight has not substantially declined over the past two decades. There has, however, been a general decline in low birth weight births in Newfoundland and Labrador over the past several years. In fact, in 1999 the percentage of low birth weight births for Newfoundland and Labrador was 5.0% of all live births, compared to the Canadian average of 5.6% (includes births less than 500g). This decline may be due, at least in part, to the declining rate of female smokers and teenage pregnancies in the province, and the increased emphasis on prenatal support. It should be noted that a potentially confounding factor is variation in the ethnic composition of a population. While some ethnic groups (e.g., Asian) tend to have babies of lower birth weight, others (such as the Canadian Aboriginal population) tend to have babies of higher birth weight or large for gestational age. High birth weights are also associated with maternal obesity, prolonged gestation and gestational diabetes. Appropriate medical care and a healthy lifestyle for the mother can improve the likelihood that the baby will have a healthy birth weight.

Research has shown that low birth weight is associated with poor maternal health, lifestyle and economic circumstances. Many specific risk factors for low birth weight have been identified and include smoking, alcohol and substance abuse, poor nutrition, limited physical activity, low pre-pregnancy weight and inadequate weight gain during pregnancy. Stress, lack of social support, and poverty have also been identified. Studies have shown that multiple births and assisted conception are also risk factors for low birth weight.

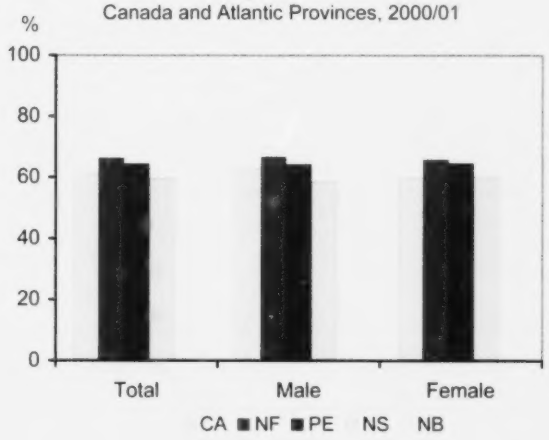
Self-Reported Health

Percentage of the population[5] aged 12 or older who report that their health is very good or excellent.

Self-reported health is a general indicator of the overall health status of an individual. Research has found that self-reported health does not reflect a single aspect of health, but a combination of different aspects of health that the individual considers important. Among these factors are physical status, lifestyle factors, mental and social well-being, and socioeconomic status.

Recent studies have indicated that Newfoundlanders and Labradorians feel good about their health and have a positive sense of emotional and physical well-being. When asked about their general health, Newfoundlanders and Labradorians report themselves to be in very good or excellent health (66.2%) at a rate higher than the Canadian average (61.4%) and that of Nova Scotia (59.5%) and New Brunswick (55.5%).

Percentage of the Population Aged 12+ Years
Reporting Health as Very Good or Excellent
by Gender
Canada and Atlantic Provinces, 2000/01



Source: Canadian Community Health Survey - Cycle 1.1 - 2000/01

Self-reported health data is collected by asking individuals to rate their overall health on a scale ranging from excellent to poor. It is widely agreed that this simple measure provides a useful summary of how

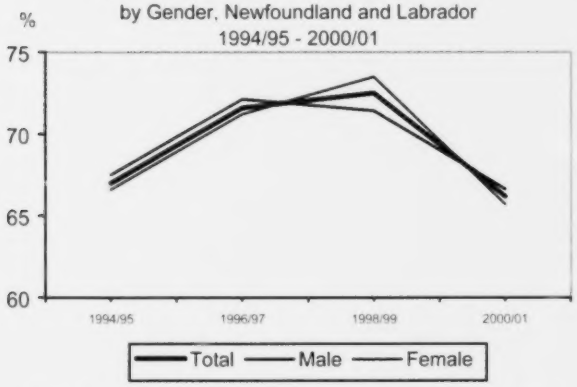
[5] Does not include persons living on First Nation Reserves and on Crown lands, residents of institutions, full-time members of Canadian Armed Forces and residents of certain remote regions.

individuals perceive their overall health status. Studies indicate that when individuals rate their health in response to this question, they tap into information that has important predictive power relating to chronic disease incidence, functional decline and ultimately survival. Numerous longitudinal studies have found that self-reported health is predictive of mortality even when more objective measures such as clinical evaluations are taken into account. In a study of health-related quality of life for cancer patients, for example, it was found that self-reported health was one of the best predictors of survival when compared with more traditional assessments.

Similar to the young Canadian population, younger Newfoundlanders and Labradorians are more likely to rate their health as very good or excellent than are older Newfoundlanders and Labradorians. Overall, the rate at which Newfoundlanders and Labradorians rate their health as very good or excellent is higher for those younger than 45 years, than for those aged 45 years or older. In 2000/01, 72.3% of individuals in the age group 12 to 19 years, 76.7% of individuals in the age group 20 to 34 years, and 71.1% of those in the age group 35 to 44 years, reported themselves to be in very good or excellent health. For the same year, 59.8% of individuals in the 45 to 64 years age group, and 47.1% of individuals aged 65 years or older reported the same, respectively.

While there is no overall difference between the rate at which male and female Newfoundlanders and Labradorians rate their health as good or excellent, any comparisons between males and females should be made with caution since each tend to include different elements in their health assessment. Studies show that females are more likely to consider psychological factors and non-life-threatening illness than are males.

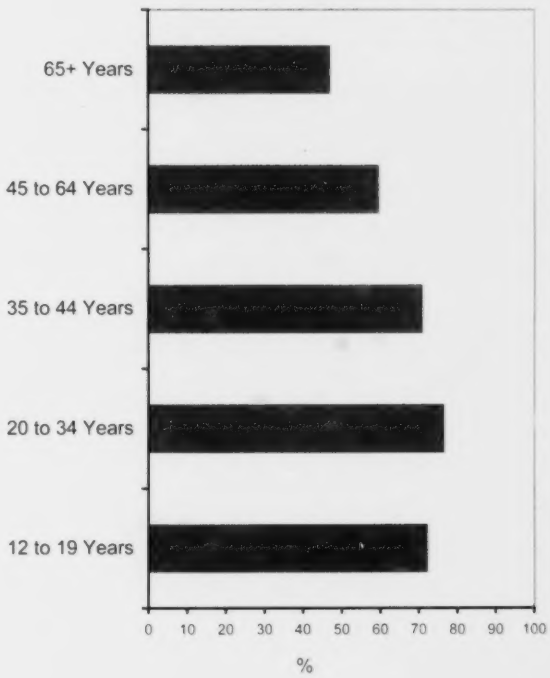
Percentage of the Population Aged 12+ Years
Reporting Health as Very Good or Excellent
by Gender, Newfoundland and Labrador
1994/95 - 2000/01



Note: The decline in the percentage of the population reporting health as very good or excellent between 1998/99 and 2000/01 may be due to the larger survey sample for the Canadian Community Health Survey than that for the National Population Health Surveys. Other Atlantic provinces show a similar decline in rate.

Source: Canadian Community Health Survey – Cycle 1.1 – 2000/01, National Population Health Surveys (1994-95, 1996/97 and 1998-99)

Percentage of the Population Reporting Health as
Very Good or Excellent
by Age Group
Newfoundland and Labrador, 2000/01



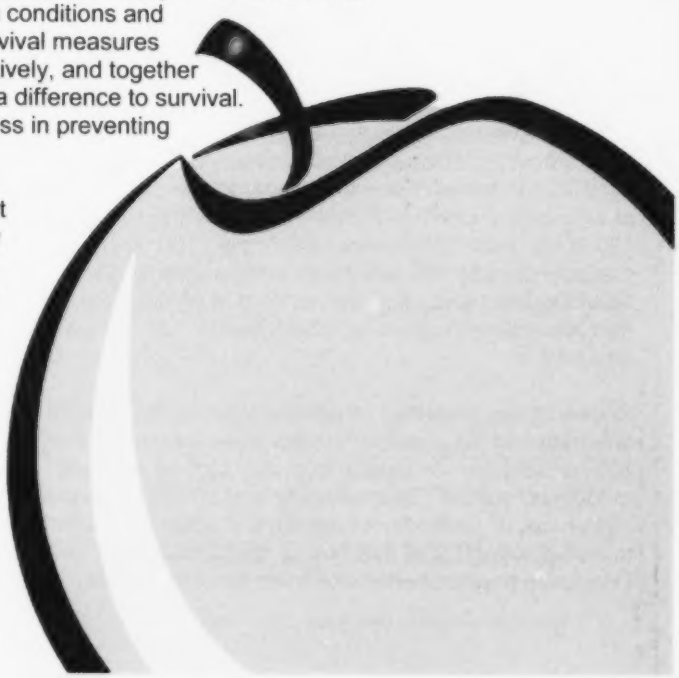
Source: Canadian Community Health Survey – Cycle 1.1 – 2000/01, National Population Health Surveys (1994-95, 1996/97 and 1998-99)

Health Outcomes

Indicators in this area are intended to reflect the impact of health system programs and services on health status. It is recognized that the extent to which particular health outcomes are attributable to health programs and services is difficult to assess based on indicator data alone. Where possible, indicators have been selected where the link between particular interventions and impact on health outcomes has been well established through research.

The three health outcome areas in this section (Change in Life Expectancy; Improved Quality of Life; Reduced Burden of Disease, Illness and Injury) are linked, focusing primarily on indicators for several large disease groups of considerable interest to the public: cancer, heart disease, and stroke. These indicators fit together to "tell the story". Incidence and mortality rates show the overall burden of disease for these conditions and provide context for survival rates. Short- and long-term survival measures reflect the impact of acute care and long-term care, respectively, and together show where, and to what extent, the health system makes a difference to survival. Potential years of life lost (PYLL) reflect the extent of success in preventing premature loss of life due to these specific causes.

Although some health system interventions save lives, most interventions are designed to improve health-related quality of life. This is the intended outcome of joint-replacement surgery, and research evidence supports the effectiveness of this surgery in improving health-related quality of life. Hip and knee replacement surgery rates are proposed as substitute indicators of improved quality of life, until more comparable and specific measures of patient function and pain, associated with various health conditions, are in place across the country.



Change in Life Expectancy

Age-Standardized Mortality Rates for Lung, Prostate, Breast and Colorectal Cancer, Acute Myocardial Infarction (AMI) and Stroke

The number of deaths of individuals where the underlying cause of death is one of those specified, per 100,000 population, that would have occurred in a standard population that has been adjusted for differences in age composition.

Age-standardized cancer, AMI (heart attack) or stroke death rate trends typically indicate long-term success in reducing deaths from these diseases. Lower death rates may indicate success in cancer or cardiovascular disease prevention, detection and treatment.

Lung Cancer Mortality

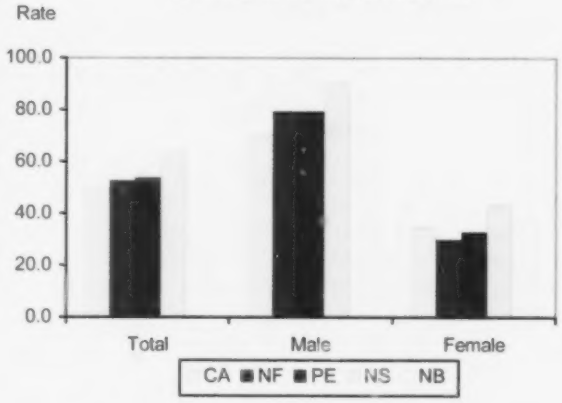
Lung cancer is the leading cause of cancer death for both males and females in Canada. It contributes to approximately 30% of cancer deaths in males and 20% of the cancer deaths in females. The age-standardized mortality rate for lung cancer is higher among Canadian males than females, which reflects the higher lung cancer incidence rate among the male population.

In 1999, the rate of lung cancer death in Newfoundland and Labrador indicated that nearly 53 individuals in every 100,000 died from lung cancer. For females, this rate was just under 30 in every 100,000 females; for males in this province, the rate was more than double that of females, at 79.4 deaths per 100,000 males. For the same year, the overall rate of lung cancer death in Prince Edward Island (53.6 per 100,000), New Brunswick (52.7 per 100,000) and Canada (50 per 100,000) was comparable to that of Newfoundland and Labrador, while that of Nova Scotia was somewhat higher at 63.4 deaths per 100,000 population.

Research has identified tobacco smoke as the number one cause of lung cancer. It has been estimated that 90% of lung cancer deaths in males can be attributed to tobacco smoke. Studies show that smokers have a higher risk of death from lung cancer when compared to non-smokers, and that risk of death increases with increasing the number of cigarettes smoked per day.

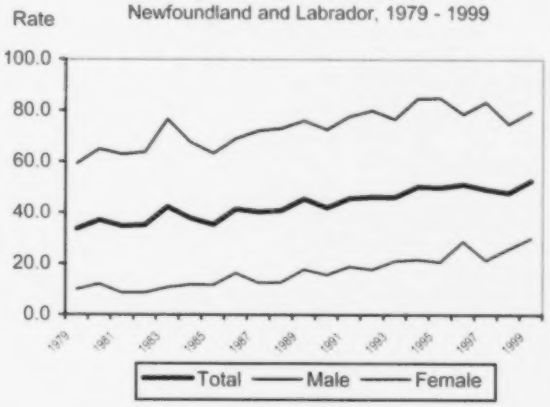
The incidence of lung cancer continues to rise, and the majority of patients have advanced disease at the time of diagnosis. There is currently no available screening test to detect lung cancer at an early enough stage for intervention to slow or stop the course of the disease and improve chances of and length of survival. Lung cancer will usually show no symptoms until it has reached an advanced stage, when the treatment outcome is poor.

Age-Standardized Mortality Rate by Gender
for Lung Cancer per 100,000 population
Canada and Atlantic Provinces, 1999



Source: Statistics Canada, Vital Statistics, and Demography Division

Age-Standardized Mortality Rate by Gender
for Lung Cancer per 100,000 population,
Newfoundland and Labrador, 1979 - 1999



Source: Statistics Canada, Vital Statistics, and Demography Division

Prostate[6] Cancer Mortality

In recent years, prostate cancer mortality rates have stabilized in most developed countries. Enhanced screening and surveillance services are believed to play a major role in decreasing and/or stabilizing mortality rates due to this disease. It has been suggested that increased screening for prostate cancer, particularly through digital rectal exams (DRE) and Prostate Specific Antigen (PSA) testing, has contributed to a decrease in the number of deaths from prostate cancer in several countries. PSA testing identifies the level of prostate specific antigen in the blood, while DRE checks for enlargement of the prostate gland. These screening tests are often used together and are offered to men above the age of 50 who are at high risk or have a family history of prostate cancer. PSA testing, however, has a high rate of false positive results and has not been recommended as a population based screening tool by either the American Cancer Society or the Canadian Cancer Society.

In 1999, the mortality rate due to prostate cancer in Newfoundland and Labrador was 32.4 deaths for every 100,000 males in the population and was somewhat higher than that for other Atlantic Provinces and for Canada as a whole (26.7 per 100,000 males). Over the past two decades, the rate of death due to prostate cancer in this province has almost doubled from 17.9 deaths per 100,000 males in 1979, to 32.4 deaths for every 100,000 males in 1999.

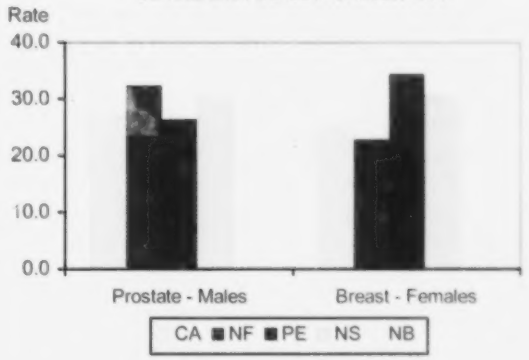
Breast Cancer Mortality

Health Canada has presented promising information with regard to breast cancer mortality; the number of breast cancer related deaths in Canada is relatively stable for females overall, even though the incidence rate for breast cancer has been steadily rising. For women over 50, the mortality rate for breast cancer has decreased. Similar trends have been observed in Australia, the United Kingdom, and the United States, and have, in large part, been attributed to improvements and awareness in the screening and treatment process. Almost one in ten females is expected to develop breast cancer; one in twenty-six is expected to die from the disease.

Mortality rates for breast cancer in Newfoundland and Labrador in 1999 indicate that 22.9 females in 100,000 died from the disease, compared to the overall Canadian rate of 25.2 per 100,000 females. In 1979, the breast cancer mortality rate was even lower at 19.4 per 100,000 Newfoundland and Labrador females.

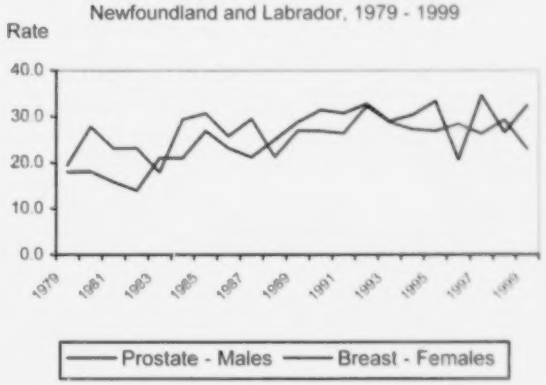
Mammography is an effective tool for the early detection of breast cancer. It has been shown to reduce mortality rates from breast cancer by approximately 30% in females between the ages of 50 and 69, when at least 70% of women are screened for breast cancer every two years. Clinical examinations are also important in the detection of breast cancer, as is general breast health awareness.

Age-Standardized Mortality Rate for
Prostate Cancer and Breast Cancer
per 100,000 male/female population
Canada and Atlantic Provinces,1999



Source: Statistics Canada, Vital Statistics, and Demography Division

Age-Standardized Mortality Rate for
Prostate Cancer and Breast Cancer
per 100,000 male/female population
Newfoundland and Labrador, 1979 - 1999



Source: Statistics Canada, Vital Statistics, and Demography Division

[6] The prostate is a gland in the male body that surrounds the neck of the bladder and the urethra and contributes a secretion to the seminal fluid.

Colorectal[7] Cancer Mortality

Overall, colorectal cancer ranks as the second most frequent cause of all cancer deaths among the Canadian population. Only lung cancer is more common in terms of the number of cancer deaths. However, age-standardized mortality rates for colorectal cancer have been steadily declining over the past number of years. In 1999, the colorectal cancer mortality rate in Newfoundland and Labrador was 21.2 deaths per 100,000 individuals, which was somewhat higher than that of the other Atlantic provinces. The same rate for the overall Canadian population in 1999 was 19.1 deaths for every 100,000 individuals.

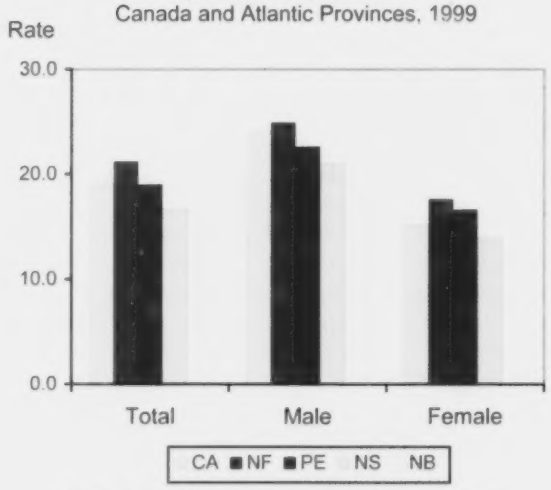
Between 1979 and 1999, mortality rates in Canada declined from 28.6 per 100,000 to 24.1 per 100,000 among males, and from 23.3 per 100,000 to 15.2 per 100,000 among females. In Newfoundland and Labrador, colorectal cancer mortality rates have similarly declined from 29.1 deaths for every 100,000 individuals in 1979, to 21.2 deaths for every 100,000 individuals in 1999. Similarities between the trends in colorectal cancer incidence and mortality rates since the mid-1980's suggest that a large part of the mortality rate decline is likely due to reductions in colorectal cancer incidence. Reductions in colorectal cancer mortality rate may also be attributable to early diagnosis and prompt treatment of the disease.

Incidence rates of colorectal cancer in Newfoundland and Labrador are slightly higher than the incidence rates in Canada as a whole, so it is perhaps not surprising that age-standardized mortality rates for colorectal cancer are higher in Newfoundland and Labrador than in the overall Canadian population.

The National Cancer Institute estimates that 280 females out of every 100,000 in Newfoundland and Labrador will be diagnosed with some form of cancer in 2002. Out of every 100,000 Newfoundland and Labrador males, it is estimated that 350 will be diagnosed with cancer.

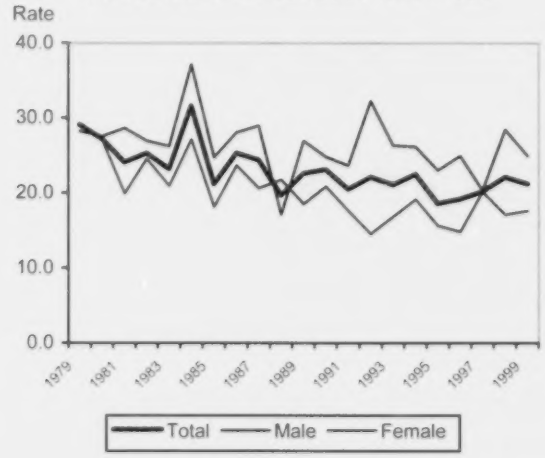
Source: Canadian Cancer Statistics 2002

Age-Standardized Mortality Rate
for Colorectal Cancer by Gender
per 100,000 population
Canada and Atlantic Provinces, 1999



Source: Statistics Canada, Vital Statistics, and Demography Division

Age-Standardized Mortality Rate
for Colorectal Cancer by Gender
per 100,000 population
Newfoundland and Labrador, 1979 - 1999



Source: Statistics Canada, Vital Statistics, and Demography Division

[7] Colorectal refers to part of the large intestine (colon) and rectum.

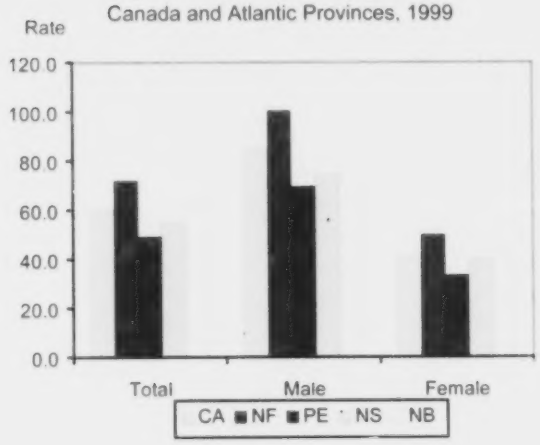
Acute Myocardial Infarction (AMI) Mortality

A major cause of disability and illness is cardiovascular disease, more specifically, acute myocardial infarction (AMI). Often called a "heart attack", AMI is a leading cause of both morbidity and mortality in Canada. According to Health Canada, in 1990, cardiovascular disease accounted for 39% of all deaths this country. Mortality rates for cardiovascular disease have been declining since the 1960's, but the costs associated with the disease continue to be high. According to Health Canada, in 1990, approximately one in every five dollars spent on hospital operating costs and one-tenth of all medical expenditures were spent on cardiovascular patients.

Risk factors for AMI are associated with lifestyle in many societies, and include high blood cholesterol, high blood pressure, smoking, obesity and physical inactivity. Surveys have shown that two of every three Canadians have at least one major modifiable risk factor for cardiovascular disease. Older Canadians are more likely to have at least one of the major risk factors than are younger Canadians. These facts illustrate the need to lower the prevalence of this disease, possibly by informing people how to modify their lifestyles. For those who have already suffered an AMI, follow-up rehabilitation and prevention are essential components to reduce mortality rates.

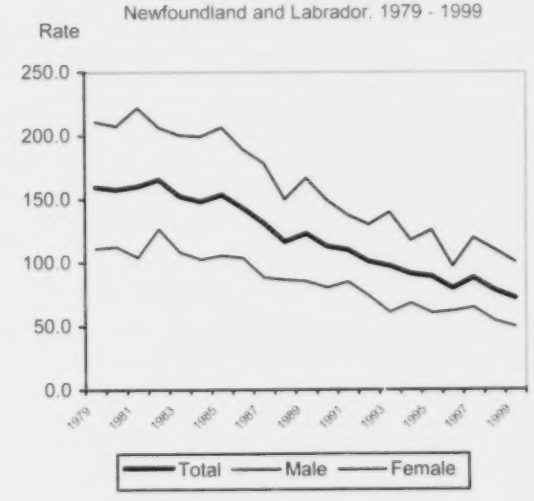
In 1992, Newfoundland and Labrador had the highest rate of death due to heart disease in Canada at 100.8 deaths per 100,000 individuals. In 1999, the mortality rate for AMI was higher in Newfoundland and Labrador (71.9 per 100,000) than that of the other Atlantic provinces, and again, was the highest Canada. The rate of death due to AMI in the overall Canadian population was 60.2 per 100,000 population in 1999. However, rates have been declining over the past two decades. In 1979, the rate of mortalities due to AMI was more than 150 per 100,000 population. By 1999 this rate had decreased to 71.9 deaths per 100,000 population. When comparing male and female AMI mortality rates, the male rate has consistently been higher than the rate for females in this province, even though rates have declined for both sexes in a parallel fashion for the past twenty years.

Age-Standardized Mortality Rate for AMI
by Gender per 100,000 population
Canada and Atlantic Provinces, 1999



Source: Statistics Canada, Vital Statistics, and Demography Division

Age-Standardized Mortality Rate for AMI
by Gender per 100,000 population
Newfoundland and Labrador, 1979 - 1999



Source: Statistics Canada, Vital Statistics, and Demography Division

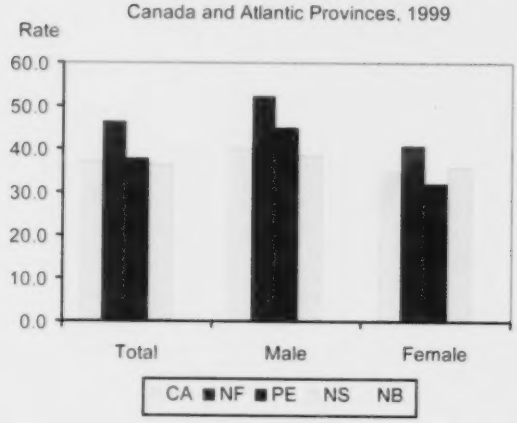
Stroke Mortality

Stroke is a condition that occurs suddenly when there is a disruption of blood flow to parts of the brain and deprives its cells of oxygen. Risk factors for stroke can be divided into two categories: uncontrollable and controllable. The uncontrollable risk factors include the patient's age, gender, and a family history of stroke. Research has shown that the risk of stroke increases with age, and is greater among males than females until around age 80. High blood pressure is a significant controllable risk factor for stroke. Other controllable risk factors include smoking, physical inactivity, high cholesterol, stress, obesity, and diabetes.

In Canada, there has been a steady decline in the death rate from stroke over the past several decades. This may be a reflection of prompt treatment of high blood pressure, as well as the declining rate of untreated high blood pressure in the population. In fact, Canada has one of the lowest stroke mortality rates in the world (37.0 deaths per 100,000 population, in 1999). While both male and female mortality rates have been declining, death rates remain higher among the male population.

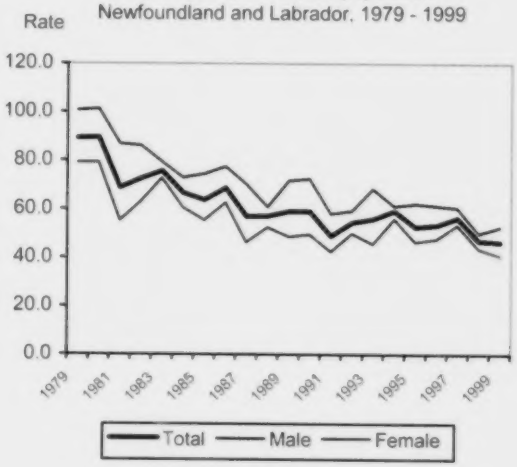
Similar to the rest of Canada, stroke mortality rates have been declining in Newfoundland and Labrador. In 1979, the rate of stroke mortality in this province was 89.2 deaths per 100,000 population. By 1999, this rate had declined to 46.3 deaths per 100,000 population. Despite this decline, in 1999 the rate of death due to stroke in Newfoundland and Labrador was higher than that of the other Atlantic provinces and Canada as a whole (37.0 per 100,000). The high rates of smoking (29.0%), obesity (31.3%) and physical inactivity (56.2%) among Newfoundlanders and Labradorians may be contributing factors to the higher stroke incidence. According to the Heart and Stroke Foundation of Canada, high blood pressure is the single most important modifiable risk factor for stroke, and is associated with about 65% of all strokes in Canada.

Age-Standardized Mortality Rate for Stroke
by Gender per 100,000 population
Canada and Atlantic Provinces, 1999



Source: Statistics Canada, Vital Statistics, and Demography Division

Age-Standardized Mortality Rate for Stroke
by Gender per 100,000 population
Newfoundland and Labrador, 1979 - 1999



Source: Statistics Canada, Vital Statistics, and Demography Division

Five-Year Age-Standardized Relative Survival Rates for Lung, Prostate, Breast and Colorectal Cancer

The ratio of observed survival in a group of cancer patients (five years after diagnosis) and the expected survival had they been subject only to the mortality rates of the general population (similar in characteristics such as age, sex and geographic place of residence).

Relative survival is the most widely used method for analysing the survival of cancer patients in population studies. It reflects the added likelihood of dying *from cancer* of those diagnosed with cancer, compared to a matched population by age and sex.

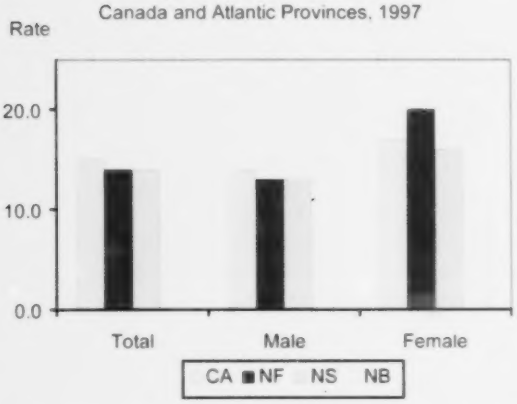
The relative survival rate is influenced by two distinct groups of factors: (1) the severity (stage) of the cancer at the time of diagnosis; and (2) the effectiveness of cancer treatment after diagnosis. While the indicator does not shed light on the relative importance of these two factors in interpreting this indicator, these two factors work in the same direction. For example, an increase in screening might result in more cancers being detected at an earlier stage. If there had not been a significant change in screening, better survival might indicate more effective and successful cancer treatment after diagnosis. This interpretation issue is currently being addressed by the addition of staging data to cancer registry systems. Cancer staging data indicates the extent of the cancer at the time of diagnosis.

Prostate, breast, lung and colorectal cancer are presented here as they represent the four most common cancer sites. It should be noted that five-year survival rates for 1997 are based on patients who were diagnosed and began treatment 5 years earlier in 1992. Thus, patients currently undergoing treatment may show higher survival rates due to more effective detection and treatment methods.

Lung Cancer Survival

Relative survival after diagnosis of lung cancer has improved only minimally over time. While advances in surgery, radiation and chemotherapy have contributed to better survival rates and improved quality of life for lung cancer patients, the overall five-year age-standardized relative survival rate is quite low in comparison to that of other cancers.

Five-Year Age-Standardized
Relative Survival Rate
for Lung Cancer Patients by Gender
Canada and Atlantic Provinces, 1997



Note: PE has not been included in this provincial comparison as Statistics Canada has advised that comparable information is not currently available.

Source: Statistics Canada, Canadian Cancer Registry, Canadian National Mortality Data Base, and Canadian and provincial life tables (1990-1992).

The lower relative survival rates for lung cancer may be partly due to the fact that lung cancer is difficult to detect. The signs and symptoms of lung cancer often take years to appear and are easily missed. In addition, the only curative treatment for lung cancer is surgery, and only a very small percentage of lung cancer patients are surgical candidates at the time of diagnosis. In 1997, the overall five-year age-standardized relative survival rate for lung cancer in Canada was 15%. Similarly, the relative survival rate for lung cancer was 14% in Newfoundland and Labrador, and was similar to that of Nova Scotia and New Brunswick.

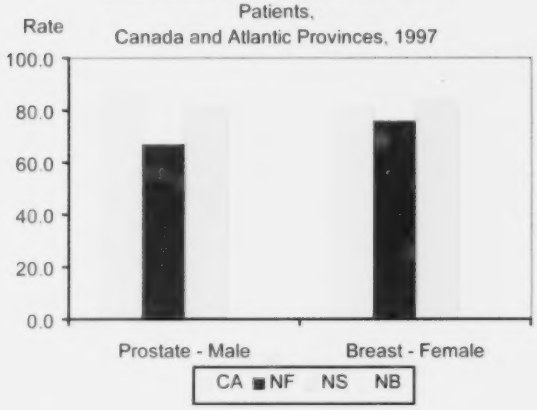
The highest survival rates for lung cancer are seen in young males and females who have been diagnosed with lung cancer before the age of 30. However, lung cancer is quite rare among this age group. In general, females have a slightly higher relative survival rate for lung cancer than males. In 1997, the five-year age-standardized relative survival rate was 14% for Canadian males and 17% for Canadian females.

Health system interventions for lung cancer have had limited success and underscore the need to emphasize prevention strategies on decreasing the rate of smoking in the population.

Prostate Cancer Survival

In 1997, the survival rate for prostate cancer for Canada as a whole (87%) was higher than that of Newfoundlanders and Labradorians (67%). There are a number of potential reasons as to why male Newfoundlanders and Labradorians are living for shorter periods of time after diagnosis. Among these are differences in screening processes and "lead time bias". It may not be that males being diagnosed with prostate cancer in Canada are living longer, but instead, these males are being diagnosed earlier. This is known as lead time bias, and may be reflected in the fact that other Canadians have a slightly higher incidence for prostate cancer than Newfoundlanders and Labradorians. It has also been suggested that the Canadian survival advantage for various cancers may be due to more equitable access to preventive and screening services.

Five-Year Age-Standardized
Relative Survival Rate
Male Prostate and Female Breast Cancer
Patients,
Canada and Atlantic Provinces, 1997



Note: PEI has not been included in this provincial comparison as Statistics Canada has advised that comparable information is not currently available.

Source: Statistics Canada, Canadian Cancer Registry, Canadian National Mortality Data Base, and Canadian and provincial life tables (1990-1992).

Breast Cancer Survival

In 1997, the five-year survival rate for breast cancer patients in Newfoundland and Labrador was 76%, which was similar to that of Nova Scotia and New Brunswick, and to Canada as a whole (82%). This means that females with breast cancer in Newfoundland and Labrador were 76% as likely to live another five years as a similar cohort of Newfoundland and Labrador females without breast cancer. The stage at which the cancer is diagnosed has been shown to be a determining factor in rate of survival.

According to the National Cancer Institute, differences in survival rates after breast cancer diagnosis may be partly attributed to the use and distribution of screening and early detection technologies, variations in diagnosis, availability and access to cancer treatment, and variations in reporting. Differential use of mammography screening for breast cancer may also be the source of some interprovincial variation. It takes approximately five to ten years after the full implementation of an organized screening program to have an effect on the mortality rate from breast cancer.

According to the 2000/01 Canadian Community Health Survey, 70% of Canadian women (aged 50 to 69 years) reported having had a mammogram in the last two years prior to the survey. Women who had a regular doctor or who had higher levels of education and income were more likely to report having had a recent mammogram.

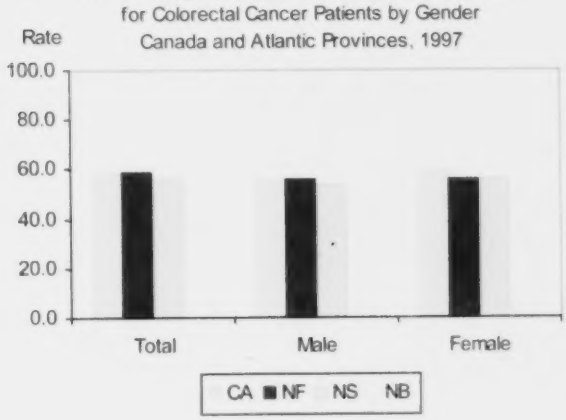
Screening Programs attempt to detect a particular disease in people who are at risk of developing the disease but may not be showing any symptoms. Screening is also a method of identifying those who are at risk.

Colorectal Cancer Survival

In 1997, the five–year age standardized survival rate for colorectal cancer was 59% in Newfoundland and Labrador, and was similar to that of Nova Scotia and New Brunswick and the overall Canadian average (58%). This means that individuals in Newfoundland and Labrador that were diagnosed with colorectal cancer in 1992 were 59% as likely to live another five years (to 1997) as a similar cohort of Newfoundlanders and Labradorians without colorectal cancer. Five-year survival rate refers to the percentage of patients who live at least 5 years after their cancer is diagnosed, however many of these patients may live much longer.

When colorectal cancer is detected early, chances of survival are increased. An important characteristic of colorectal cancer is the presence of pre-cancerous growths, which can be removed if detected. Early detection procedures for colorectal cancer include a test to detect the presence of blood in the stool (fecal occult blood testing), scoping procedures in which the inside of the rectum and colon are directly visualized (sigmoidoscopy and colonoscopy), and indirect procedures involving x-rays and barium enema. Once detected, the three most common treatments of colorectal cancer are surgery, radiation therapy, and chemotherapy.

Five-Year Age-Standardized Relative Survival Rate for Colorectal Cancer Patients by Gender Canada and Atlantic Provinces, 1997



Note: PE has not been included in this provincial comparison as Statistics Canada has advised that comparable information is not currently available.

Source: Statistics Canada, Canadian Cancer Registry, Canadian National Mortality Data Base, and Canadian and provincial life tables (1990-1992)

Cancer was the second leading cause of death in both Canada and Newfoundland and Labrador in 1998.

Source: Statistics Canada,Causes of Death,Shelf Tables, 1998.

30-Day Stroke In-Hospital Mortality Rate

The risk-adjusted rate of all cause in-hospital deaths occurring within 30 days of admission to an acute care hospital with a diagnosis of stroke.

Stroke is a significant cause of death and disability in the Canadian population. Thirty-day stroke in-hospital mortality indicates the percentage of first-time stroke patients who die within thirty days of admission to a hospital. The immediate weeks following a stroke are crucial to survival and there are many factors that can affect a patient's outcome. For instance, standardized in-hospital mortality rates have been shown to be significantly lower in major teaching hospitals than in non-teaching hospitals. The presence of in-hospital stroke units have also been shown to reduce mortality, institutionalization and dependence after a stroke to a greater extent than having specialist teams attached to the wards or in the patients' homes. A growing body of evidence on stroke mortality suggests that organized and specific specialist care is important to the improvement of outcomes among stroke patients.

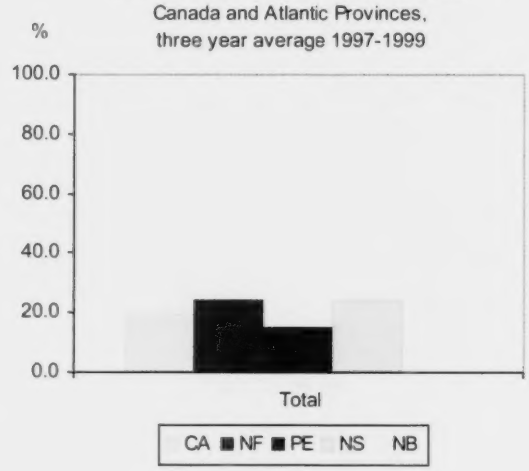
Studies also show that socioeconomic status can have an impact on stroke mortality rates. More specifically, 30-day stroke mortality rates have been shown to be higher for those in the lowest income groups than those in the highest income groups.

The 30-day stroke in-hospital mortality rate in Newfoundland and Labrador has been relatively steady over the past number of years. The average rate for the years 1997 to 1999 indicates that 24.4% of all stroke patients died within thirty days of hospital admission, and did not fluctuate by more than 1.7% over this period. The three-year average rate for Newfoundland and Labrador was similar to that of Nova Scotia (24.1%) and New Brunswick (21.9%), while the average rate for Prince Edward Island was slightly lower at 15.1%. The three-year average rate for Canada as a whole was 19.2%.

Many of the risk factors for stroke are prevalent in our society, causing stroke to be a major concern in Canada. According to the Heart and Stroke Foundation of Canada, a risk factor is something in your physical condition, family history, or lifestyle that increases your chances of developing an illness and having more than one risk factor multiplies an individuals chances of having a stroke. As previously discussed, there are two general types of risk factors: those that are controllable and those that are uncontrollable.

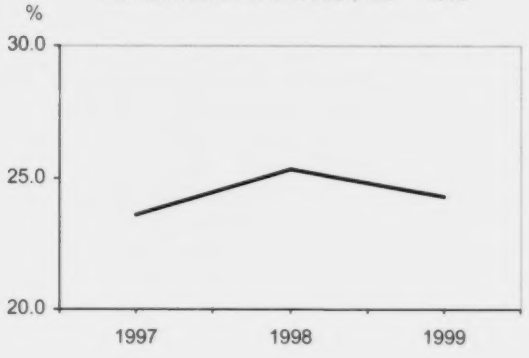
The major risk factors for stroke that cannot be changed are: increased age, gender, race, family history and prior stroke. Over two-thirds of all stroke occur to people over the age of 65. As indicated previously, high blood pressure is the single most important modifiable risk factor for stroke, and is associated with about 65% of all strokes in Canada.

Percentage of All Cause In-Hospital Deaths within 30-Days of Admission with Stroke
Canada and Atlantic Provinces,
three year average 1997-1999



Source: Hospital Morbidity Database, CIHI

Percentage of All Cause In-Hospital Deaths within 30-Days of Admission with Stroke
Newfoundland and Labrador, 1997 - 1999



Source: Hospital Morbidity Database, CIHI

Improved Quality of Life[8]

The intended outcome of most elective surgeries is improved health-related quality of life. Recent research in British Columbia specifically examined the appropriateness and health-related outcomes of several types of elective surgery. Results demonstrated that health-related quality of life improved substantially for the great majority of those receiving one of six different elective procedures. Over 94% of those receiving a hip replacement reported significant improvement in pain, stiffness and overall functioning.

There is currently no nationally accepted standard for deciding whether hip or knee replacement surgery is appropriate or necessary. Without these standards, it is difficult to determine what an appropriate level of hip and knee replacement surgery should be.

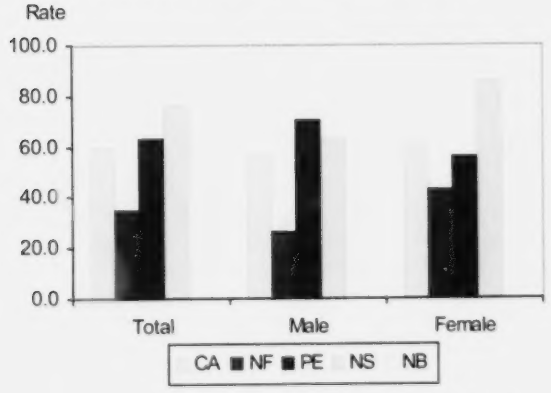
Total Hip Replacement Rate

Age-standardized rate of total unilateral or bilateral hip replacement surgery performed on in-patients in acute care hospitals.

Total hip replacement has become an increasingly accepted and utilized procedure for conditions such as advanced arthritis of the hip. Total hip replacement was designed to improve physical functioning and relieve pain; however, studies consistently show favorable and often dramatic improvements in health related quality of life. In addition to physical functioning, improvements occur in the area of social functioning, psychological well-being, economic recovery and general life satisfaction. These improvements most often occur within the first three to six months after surgery.

In 1999/2000, the total hip replacement rate in Newfoundland and Labrador was 35.5 per 100,000 population, which was lower than that of the other Atlantic Provinces and the overall Canadian average (59.5 per 100,000 population). In addition, the total hip replacement rate was somewhat higher among the Newfoundland and Labrador female population (43.1 per 100,000), than among the male population (26.9 per 100,000). Possible reasons for the difference between provinces may be that Newfoundlanders and Labradorians are delaying surgery, more patients are opting not to have the surgery, or perhaps more conservative approaches to treatment are being used.

Total Hip Replacement Rate per 100,000 Population, by Gender
Canada and Atlantic Provinces 1999/2000



Source: Hospital Morbidity Database, CIHI, Census, Statistics Canada

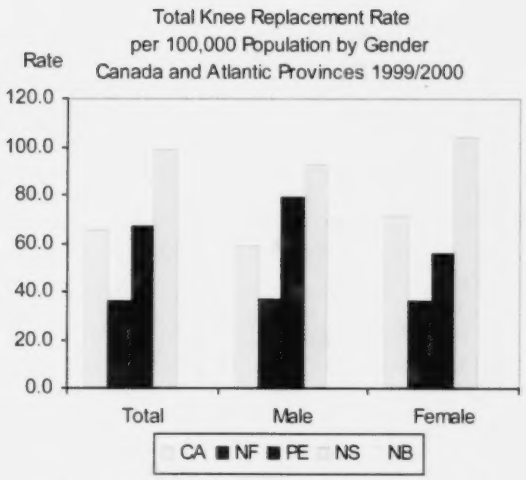
[8] *Due to limitations of existing databases, intervention rates for joint replacement are being used as substitute indicators of health-related quality of life for reporting in 2002.*

Total Knee Replacement Rate

Age-standardized rate of total unilateral or bilateral knee replacement surgery performed on in-patients in acute care hospitals.

Knee replacement, like hip replacement, is a means of improving an individual's quality of life. Similar to the hip replacement rate, the rate of knee replacement in Newfoundland and Labrador of 36.2 per 100,000 population was much lower in 1999/2000 than the Canadian rate (65.6 per 100,000 population) and the rates for the other Atlantic Provinces. Unlike the rate of total hip replacement, however, the rate of total knee replacement is similar for both genders among the Newfoundland and Labrador population.

Since the number of orthopedic surgeons in Newfoundland and Labrador is considered adequate for the population, it is unlikely that the availability of a surgeon or long wait lists are associated with the low replacement rates. It is possible that patients are choosing to delay surgery or opting not to have surgery after weighing the costs and benefits of such a procedure with a physician. The physical status and overall health of a patient prior to surgery are major determinants in the rate and success of recovery after surgery. This may influence the decision whether or not to have surgery.



Source: Hospital Morbidity Database, CIHI, Census, Statistics Canada

Reduced Burden of Disease, Illness and Injury

Age-Standardized Incidence Rates for Lung, Prostate, Breast and Colorectal Cancer

The number of newly diagnosed primary cancer cases in a given year per 100,000 population that would have occurred if the actual age-specific rates observed in a given population had occurred in the standard population.

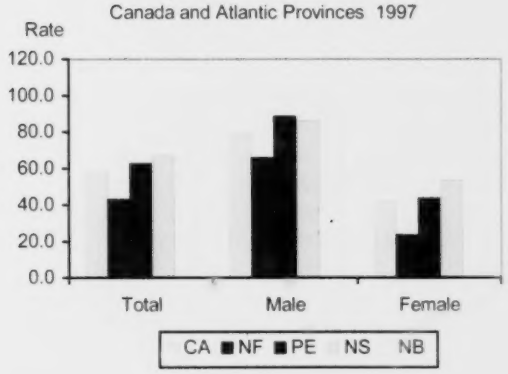
Age-standardized incidence rates measure the appearance of new cancers. This incidence rate is influenced by two main groups of factors: (1) the underlying rate of cancer incidence, which reflects, in part, the prevalence of risk factors such as smoking, and hence the success of primary prevention efforts; and (2) the rate of detection and diagnosis of cancers, which in turn can be influenced by the intensity and effectiveness of cancer screening programs.

From the viewpoint of interpreting this indicator, these two factors work in opposite directions. For example, an increase in measured cancer incidence could reflect either a deterioration in healthy lifestyle or an improvement in screening. However, this latter kind of "screening artifact" is unlikely to carry on for a long period of time so that, generally, a declining incidence of cancer suggests a positive change in population health. This interpretation issue is being addressed by the addition of staging data to the cancer registry systems. Cancer staging provides information on how advanced (serious) the cancer is at the time of diagnosis.

Lung Cancer Incidence

As previously discussed, tobacco use is the predominant cause of lung cancer, and second-hand tobacco smoke is the number one risk factor for lung cancer among non-smokers. Studies have shown that the risk of lung cancer rises sharply with increasing number of cigarettes smoked per day and with increasing number of years spent smoking. Several occupational exposures are also associated with an increased risk of lung cancer such as asbestos, arsenic and nickel. There is evidence suggesting that a diet high in fresh fruits and vegetables can lower the risk of developing lung cancer.

Age-Standardized Incidence Rate for Lung Cancer, by Gender per 100,000 population Canada and Atlantic Provinces 1997



Source: Statistics Canada, Canadian Cancer Registry, and Demography Division (census population estimates)

In Canada, lung cancer incidence rates have been historically much lower among females than among males, but have been increasing over the past two decades. Among males, the incidence of lung cancer had been increasing for many decades, and only since the mid-1980's has begun to decline. In 2002, estimated lung cancer incidence rates among Canadian females (47.3 per 100,000 female population) are still much lower than among males (73.9 per 100,000 male population). In Newfoundland and Labrador, lung cancer rates have followed a similar trend. In 1997, the Newfoundland and Labrador rate (43.3 per 100,000 population) was the lowest of all Canadian provinces and territories. Differences between provincial incidence rates may reflect differences in lifestyle habits, as well as differences in occupational and environmental exposures. However, it is estimated that 30-40% of all newly diagnosed lung cancer cases are not registered in Newfoundland and Labrador. The reason for this is that a very low percentage of newly diagnosed cancer cases have a pathological/cytological diagnosis. The majority of new lung cancer cases are being diagnosed either radiologically or clinically, which are not always registered with the cancer registry. Since radiological interpretation is not a confirmation of a cancer diagnosis, these cases are not registered unless they are treated at either the Dr. H. Bliss Murphy Cancer Centre or one of the regional programs.

The incidence of lung cancer today may be a reflection of smoking patterns observed decades ago. Historically, a majority of men smoked regularly, though a significant decline in tobacco

consumption has taken place since the mid-1960's. This decline in smoking rates among males is now reflected in the decreasing lung cancer incidence rates. Among females, smoking rates did not reach the high levels observed among males, and did not significantly decline until the 1980s. Thus, benefits in terms of declining lung cancer rates among females have yet to become apparent.

Breast Cancer Incidence

According to Health Canada, breast cancer is the most frequently diagnosed cancer in Canadian females, accounting for approximately 30% of all new cancer cases each year. Male breast cancer accounts for less than 1% of all breast cancer. Statistics show that one in ten Canadian females will develop breast cancer, at some time during their lifetime, and that age is the most significant risk factor in the development of this disease. Other important risk factors include a strong family history of breast cancer, personal history of ovarian cancer and a history of atypical ductal hyperplasia (ADH) of the breast.

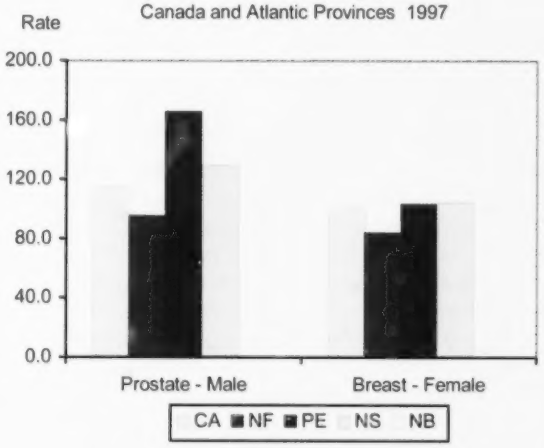
In 1997, the incidence rate of breast cancer in Newfoundland and Labrador was 84.4 for every 100,000 females, which was lower than that of the other Atlantic Provinces and Canada as a whole (102 per 100,000 females).

The risk factors associated with breast cancer are not easily modifiable. Breast cancer cannot be prevented, but it can be detected early when it is most treatable. All women between the ages of 50-69 should be screened for breast cancer every two years and they should have annual clinical examinations. Women who have either a strong family history of the disease, personal history of ovarian cancer or have had ADH should be screened on an annual basis.

Prostate Cancer Incidence

The overall trend of increasing incidence of prostate cancer in Canada can most likely be attributed to a rise in the use of screening methods such as digital rectal exams (DRE), and Prostate Specific Antigen (PSA) testing. Improvements in screening methods have led to increased detection of prostate cancer, and therefore contribute to an increase in incidence rate. There is generally a marked increase in the rate of prostate cancer with age. This, coupled with the fact that the elderly Canadian male population is increasing, suggests that an increase in the number of males developing prostate cancer is likely within the next couple of decades. Rates for prostate cancer in Newfoundland and Labrador in 1997 were low, at 95.6 per 100,000 males, in comparison to that of the Canadian average of 115 per 100,000 males.

Age-Standardized Incidence Rate
Prostate and Breast Cancer
per 100,000 male/female population
Canada and Atlantic Provinces 1997



Source: Statistics Canada, Canadian Cancer Registry, and Demography Division (census population estimates)

The exact cause of prostate cancer is not yet known, but it likely results from a combination of genetic, environmental and lifestyle factors. Diet is a major determinant in the development of prostate cancer. In particular, dietary fat has been linked with the incidence of breast, colon, and prostate cancer in western countries. More evidence linking diet to cancer incidence suggests that the incidence of these cancers is lower in cultures that eat a low fat, high fiber diet.

Colorectal Cancer Incidence

Most colorectal cancers start from polyps, small gland-like growths that occur in the inner lining of the large intestine. The progression of cancer from most types of polyps takes about five years, but can occur much faster for inherited forms of polyps. Colorectal cancer is a highly treatable and often curable disease if it is discovered at an early stage.

Some of the most important risk factors for colorectal cancer, such as age and family history, cannot be

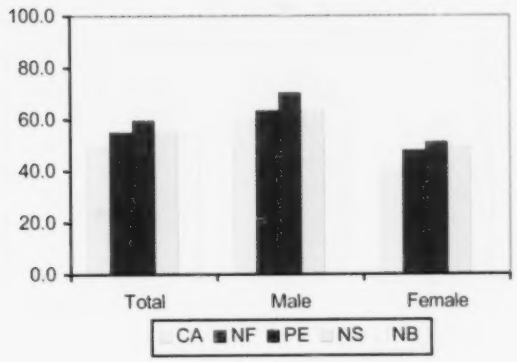
modified. Dietary factors appear to be among the most important modifiable determinants of colorectal cancer risk. A diet rich in red meat and saturated fat appears to increase the risk of colorectal cancer, while fruit, vegetables, fiber, folate and calcium are believed to provide protective effects. Lifestyle factors such as smoking and physical inactivity have also been linked to an increased risk of colorectal cancer. In addition, recent research suggests that non-steroidal anti-inflammatory drugs, such as aspirin, may prevent the formation of polyps or cause them to regress.

While colorectal cancer is the third most common cancer among both sexes, it is generally higher among Canadian males than females. It has been suggested that this difference in rates between males and females might be due to a difference in the specific location of the cancer site. Overall, incidence rates in Canada peaked around 1985 at 56.4 per 100,000 population, and have since declined to 49.3 per 100,000 population in 1997.

In Newfoundland and Labrador, incidence rates for females have declined since the mid-1980s, whereas incidence rates for males have continued to rise. There is strong evidence of a genetically linked colorectal cancer in Newfoundland and Labrador, which may be partially responsible for the continued rise in colorectal cancer among the male population. Genetic screening and counseling is available to Newfoundlanders and Labradorians when there is a family history of the disease. In 1997, the colorectal cancer incidence for Newfoundlanders and Labradorians was slightly higher than that of the Canadian average (49.3 per 100,000) at 55.1 per 100,000 individuals.

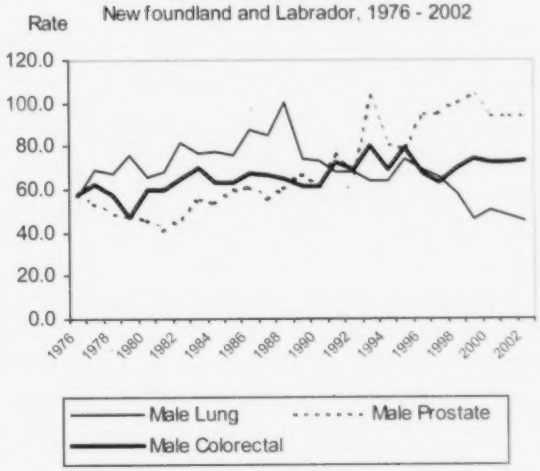
The reasons for overall trends in colorectal cancer incidence are not known with certainty, but are likely due to a combination of changes in the disease and improvements in how the disease is detected.

Age-Standardized Relative Incidence Rate for Colorectal Cancer, by Gender per 100,000 population Canada and Atlantic Provinces, 1997



Source: Statistics Canada, Canadian Cancer Registry, and Demography Division (census population estimates)

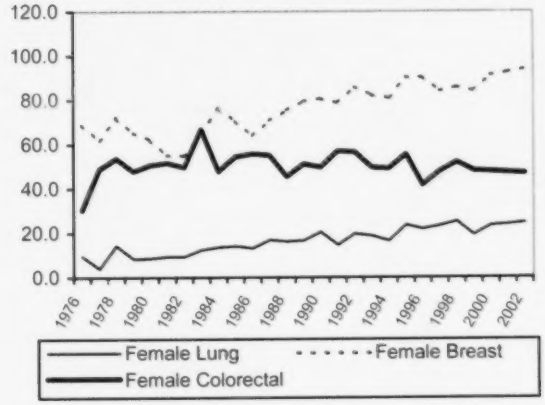
Age-Standardized Incidence Rates for Lung, Prostate and Colorectal Cancer per 100,000 male population Newfoundland and Labrador, 1976 - 2002



Note: Data for the years 1998 to 2002 are preliminary, and may be subject to change.

Source: Statistics Canada, Canadian Cancer Registry, and Demography Division (census population estimates)

Age-Standardized Incidence Rates for Lung, Breast and Colorectal Cancer per 100,000 female population Newfoundland and Labrador, 1976 - 2002



Note: Data for the years 1998 to 2002 are preliminary, and may be subject to change.

Source: Statistics Canada, Canadian Cancer Registry, and Demography Division (census population estimates)

Potential Years of Life Lost (PYLL) Due to Lung, Prostate, Breast, and Colorectal Cancer, Acute Myocardial Infarction (AMI), Stroke, Suicide and Unintentional Injury

Potential years of life lost (PYLL) is the number of years of life "lost" when a person dies "prematurely" from any cause – defined as dying before age 75. A person dying at age 25, for example, has lost 50 years of life.

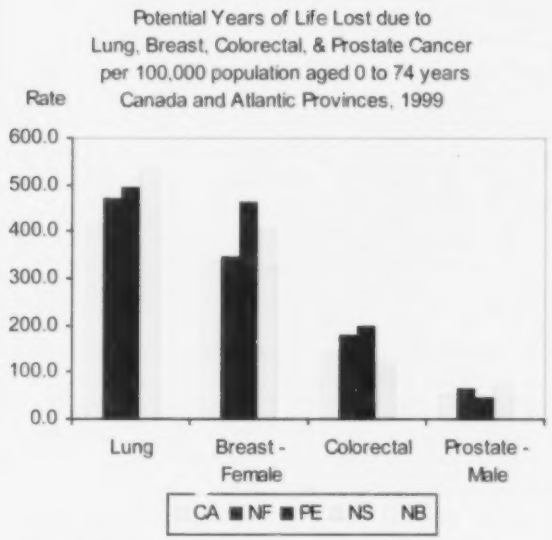
PYLL is a complementary indicator to life expectancy and focuses on mortality rates among the non-elderly. It reflects the level of success in preventing premature (and, therefore, presumably preventable or postponable) loss of life, with its consequent loss of social and economic productivity. It is an overall indicator of population health and well-being and effectiveness of preventive programs.

PYLL can also be estimated for a specific cause, in which case the indicator measures the number of years of life "lost" when a person dies before age 75 due to a cause like injury, cancer, AMI or stroke.

Premature mortality due to cancer is higher for cancers that are more common, have an earlier age of onset, and more quickly lead to death. While the number of males that die from cancer each year is higher than the number of females, the potential years of life lost for females is slightly higher than that for males. This is partially due to the fact that death due to some female cancers, such as breast cancer, occur at a young age. Smoking is the single most important cause of preventable, premature cancer death. Among males, smoking is responsible for about one third of potential years of life lost due to all cancers, and about one fifth of potential years of life lost among females.

Lung Cancer

Because of its relative frequency and poor survival rates, lung cancer is by far the leading cause of premature death due to cancer in Canada. In 1999, lung cancer contributed to 470.6 potential years of life lost for every 100,000 Newfoundlanders and Labradorians aged 0-74 years. For the overall Canadian population, the PYLL due to lung cancer was somewhat lower at 417.9 years of life lost for every 100,000 population.



Source: Statistics Canada, Vital Statistics, Death Database and Demography Division

For males in 1999, the three leading cancers with respect to potential years of life lost were lung, colorectal and prostate. Although prostate cancer is more common than lung cancer, the potential years of life lost due to lung cancer is approximately four times that due to prostate cancer. This reflects the higher mortality rates for lung cancer and the younger age at which males develop and die from the disease. The three leading cancers with respect to potential years of life lost for females in 1999 were lung, breast, and colorectal. While the breast cancer incidence rate was more than double that of lung cancer among Canadian females in 1999, the potential years of life lost due to lung cancer was slightly higher than that due to breast cancer.

Prostate Cancer

From 1979 to 1999, the potential years of life lost due to prostate cancer has increased from 40.8 years to 65.1 years, per 100,000 Newfoundland and Labrador males. In 1999, PYLL due to prostate cancer was slightly lower for the overall Canadian male population (55.6 per 100,000 male population), than for the Newfoundland and Labrador male population.

Today's testing methods, (e.g. prostate specific antigen (PSA) testing), are very effective in detecting disorders of the prostate. Screening for prostate cancer should begin earlier for males who have a genetic link to the disease or who may have a higher risk of developing the disease. Early detection of this

disease will not only save health care dollars, but more importantly it may save lives and reduce suffering. Changing dietary habits is also important in reducing the years of life lost to this disease. Research has linked negative eating habits, such as eating high fat, and high sodium foods, to the development of prostate cancer.

Breast Cancer

Breast cancer is an all too common disease and, as such, has become an important public health issue. In 1998, 19.6% of all potential years of life lost to cancer were lost to breast cancer. Breast cancer affects both younger and older females. In fact, the most common cancer diagnosed in young adult females between the ages of 20 and 44, is breast cancer. Although diagnosis of cancer in young adulthood is rare, females are more likely to be diagnosed with cancer during young adulthood than males, when they have most of their lives ahead of them.

In 1999, breast cancer contributed to 338.5 potential years of life lost per 100,000 Canadian females, while the rate for Newfoundland and Labrador females was slightly higher at 348.1 PYLL for every 100,000 female population. The Newfoundland and Labrador rate, however, was somewhat lower than that of Prince Edward Island (464.2 per 100,000) and Nova Scotia (405.1 per 100,000) for that year.

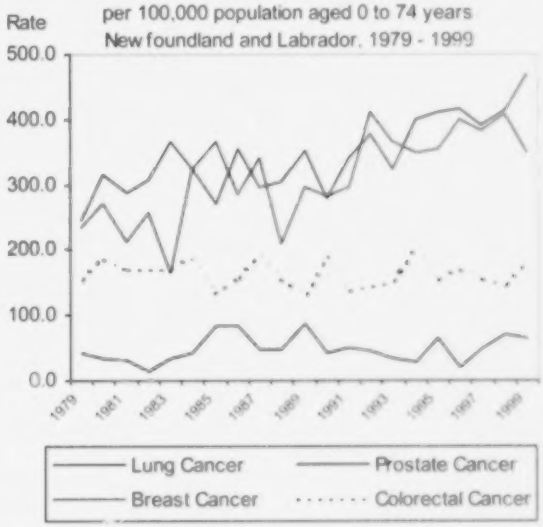
There are many factors that may be involved in the development of, and years of life lost to, breast cancer. However, according to Health Canada's report *Chronic Diseases in Canada*, only about 25-40% of breast cancer incidence in Canadian females can be attributed to identifiable risk factors. The purpose of health promotion and disease prevention is to reduce the years of life lost in premature mortality and to ensure high quality in the remaining years of life. However, this is not always possible, especially when many of the risk factors associated with a disease, such as breast cancer, are not modifiable. Diet and exercise are lifestyle factors that may be changed or adjusted, but when breast cancer is in a woman's family history, awareness of increased risk and screening options are key to the early detection and reduction of PYLL.

Colorectal Cancer

In Canada, the number of people per 100,000 population who are diagnosed with colorectal cancer and the number of people per 100,000 who die of the disease have declined steadily over the past 15 years. In a parallel manner, the potential years of life lost due to colorectal cancer have been declining as well. Potential years of life lost due to colorectal cancer remains higher among males (201.1 per 100,000) than females (156.0 per 100,000), reflecting the higher incidence and mortality rates among the male population. The reasons for the declining Canadian trends in incidence and death rates are not known with certainty, but it has been suggested that it may be due to a combination of improvements in how the disease is detected, people adopting healthier lifestyles, and actual changes in the disease.

There is, however, some interprovincial variation. Newfoundland and Labrador, for example, has not seen the same decline in PYLL due to colorectal cancer as the overall Canadian population. In 1999, colorectal cancer contributed to 134.7 potential years of life lost per 100,000 Canadian population, while the rate for Newfoundland and Labrador was 178.6 PYLL per 100,000 population.

Potential Years of Life Lost due to
Lung, Prostate, Breast and Colorectal Cancer
per 100,000 population aged 0 to 74 years
Newfoundland and Labrador, 1979 - 1999



Source: Statistics Canada, Vital Statistics Death Database and Demography Division

Acute Myocardial Infarction (AMI)

Because heart disease is one of the major causes of death among Canadians, many years of life are being lost to this disease. In Canada, the PYLL due to AMI in 1999 was 312.1 years for every 100,000 individuals. The rate for Newfoundland and Labrador for that same year was higher at 389.3 years per 100,000 individuals.

Although advances are being made in medical care to help reduce the number of premature deaths from Acute Myocardial Infarction (AMI), heart disease still takes people's lives during their most productive years.

Stroke

The risk of stroke increases with increasing age. In fact, two-thirds of all strokes occur to people over the age of 65. Overall, males have a greater chance of having a stroke than do females. Among people under age 65, the risk for males is even greater when compared to that of females.

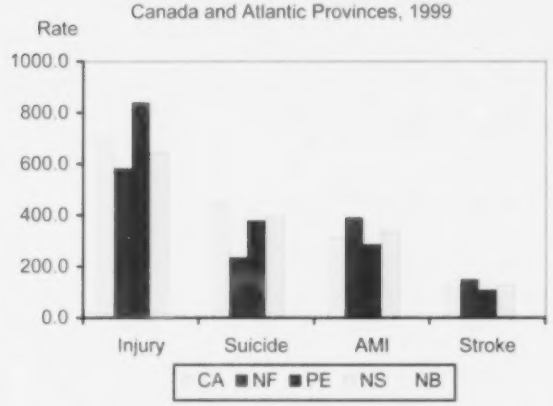
In 1999, the potential years of life lost due to stroke were only slightly greater for Canadian males (127.1 per 100,000 population) than for Canadian females (119.2 years per 100,000 population). Similarly, in Newfoundland and Labrador, stroke contributed 174.9 years of life lost per 100,000 male population, and 121.9 per 100,000 female population. In general, potential years of life lost have been greater for males than for females for all major causes of death, except cancer. When males and females are considered together, stroke contributed to slightly more PYLL in the Newfoundland and Labrador population (148.4 per 100,000) in 1999, than in the overall Canadian population (123.1 per 100,000).

Encouragingly, mortality rates for stroke have been declining in Canada over the past several decades. It has been suggested that effective treatment of high blood pressure and the prompt treatment of stroke have been key contributors to the decline in death rates for stroke over the years.

Suicide

Suicide in Canada is a major public health issue and results in one of the highest rates of potential years of life lost among all causes of death. During the

Potential Years of Life Lost due to
Injury, Suicide, AMI and Stroke
per 100,000 population age 0 to 74 years
Canada and Atlantic Provinces, 1999



Source: Statistics Canada, Vital Statistics, Death Database and Demography Division

past decade, there has been a dramatic and disturbing increase in suicide among youth. Following motor vehicle crashes, suicide is the second leading cause of death in adolescents.

In Canada the rate of suicide is decreasing, but it is still quite high compared to that of other countries. In 1997, the Canadian suicide rate was 12.3 per 100,000 population. Aboriginal Canadians, especially young native males, are at an increased risk of suicide. Some aboriginal communities have rates 3-5 times higher than the general population. While the rates of suicide are lowest in Newfoundland and Labrador, youth suicide rates in Newfoundland and Labrador have been rising steadily, contributing to an increased rate of potential years of life lost. Of particular concern is the high rate of adolescent and pre-adolescent suicide in Labrador aboriginal youth. In the overall Canadian population suicide contributed to 453.2 PYLL per 100,000 population in 1999, which was nearly double that of the Newfoundland and Labrador population at 233.6 PYLL per 100,000 population.

While more females than males attempt suicide, males are about four times more likely to die by suicide than are females. The higher success rate among males is thought to be a contributing factor to the sex difference in potential years of life lost. In 1999, for example, potential years of life lost due to suicide was 86.8 per 100,000 Newfoundland and

Labrador females and 379.9 per 100,000 Newfoundland and Labrador males. For the overall Canadian population, the rates were considerably higher at 179.4 PYLL per 100,000 female population and 724.7 PYLL per 100,000 male population.

Unintentional Injury

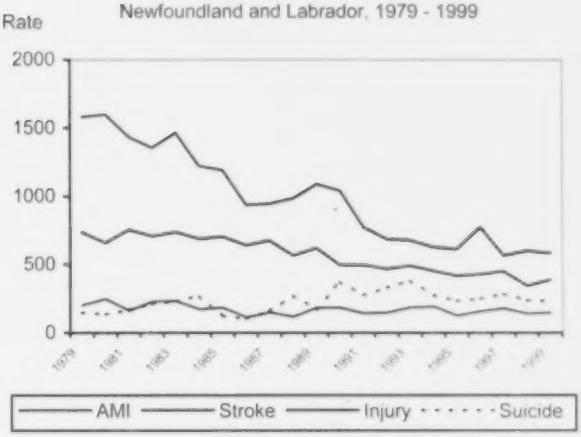
For many years, our society has paid more attention to cancer, heart disease and stroke than it has to injury. In fact, injuries account for more potential years of life lost than any of these diseases. Among the leading causes of death due to injury are motor vehicle accidents and falls. Research has shown that more than 90% of injuries are both predictable and preventable. In more recent years, injury and injury prevention have been getting increased attention.

Like other Canadian provinces, Newfoundland and Labrador has seen an encouraging decline in potential years of life lost due to injury over the past two decades. In fact, in 1999 the potential years of life lost due to injury was considerably lower in Newfoundland and Labrador at 582.0 PYLL per 100,000 population than all other Atlantic Provinces and the Canadian average (706.6 PYLL per 100,000 population).

Motor vehicle accident fatalities and injuries are nearly 30% lower in Newfoundland and Labrador than the Canadian average, which is a major contributing factor to the lower rate of potential years of life lost. In Canada, the percentage of fatally injured drivers that are legally impaired has been declining over the past decade. In recent years, it has been estimated that one-third of all driver fatalities in Canada involve alcohol.

In general, potential years of life lost due to injury has been more than three times greater for males (883.1) than that for females (279.8). Contributing to this sex difference is the fact that motor vehicle accident fatalities affect males four times as often as females. Falls are the leading cause of female death due to injury but contribute fewer years to potential years of life lost since they most often occur later in life, among elderly females.

Potential Years of Life Lost due to AMI, Stroke, Injury and Suicide
per 100,000 population aged 0 to 74 years
Newfoundland and Labrador, 1979 - 1999



Source: Statistics Canada, Vital Statistics, Death Database and Demography Division

Among the leading causes of death due to injury are motor vehicle accidents and falls. Research has shown that more than 90% of injuries are both predictable and preventable.

Incidence Rates of Selected Vaccine-Preventable Diseases[9]

Invasive Meningococcal Disease Incidence Rate

The rate of new cases of invasive meningococcal disease reported by age and serogroup. Serogroup refers to a designation used in the classification of certain types of bacteria and viruses.

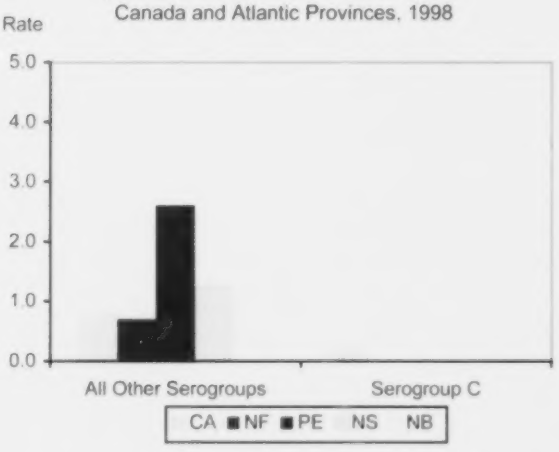
Meningococcal disease is caused by bacteria called *Neisseria meningitidis*. This bacteria can live harmlessly in the nose and throat of healthy people, but can cause a serious infection if it invades the body's tissues or bloodstream. Meningococcal bacteria can live for only a few minutes outside the body and can therefore only be transmitted through direct contact with an infected person's oral or nasal secretions. Meningitis is a common result of meningococcal disease. Meningitis is a swelling of the lining surrounding the brain and spinal cord, and can cause very serious illness, even death.

Most cases of this disease occur in infants, children and young adults. Because of the severity of illness, there is often a high level of public interest in the disease and until recently, only a limited response was possible. Immunization programs have been introduced in several provinces or regions where higher types of infection have occurred.

A new generation of vaccine against Group C disease can be given to infants as young as two months of age. The currently available vaccine against Groups A, C, Y and W135 meningococcal bacteria provides only short-lived immunity, but other vaccines are under development. Vaccination is currently only recommended in this province for medical conditions that increase the risk of disease and for those travelling to high risk countries.

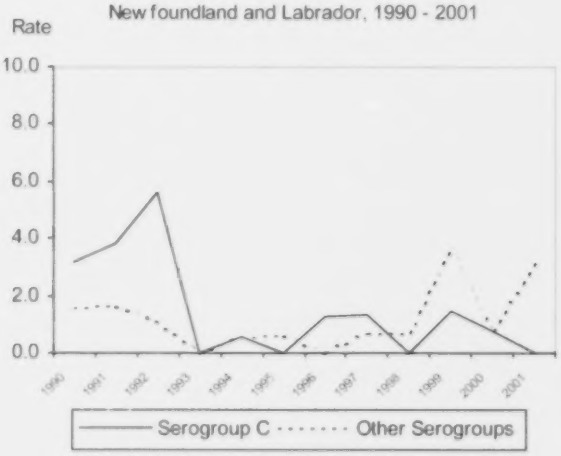
In 1998, the last year that comparable data is available, there was one reported case (0.22 per 100,000 individuals) of serogroup C in the Canadian population aged 0-19, while there were no reported cases in Newfoundland and Labrador for the same age group. Incidence of all serogroups of invasive meningococcal disease in Newfoundland and Labrador has decreased in the past decade. The incidence rate for serogroup C has dropped from 3.2 per 100,000 individuals in 1990 to zero cases in 2001. Since 1998, there has been a total of 13 reported cases of invasive meningococcal disease for the Newfoundland and Labrador population under twenty years of age.

Incidence of Invasive Meningococcal Disease by Serogroup
per 100,000 Population Under 20 years
Canada and Atlantic Provinces, 1998



Source: Health Canada. Notifiable disease reporting and enhanced surveillance system

Incidence of Invasive Meningococcal Disease by Serogroup
per 100,000 Population Under 20
Newfoundland and Labrador, 1990 - 2001



Source: Division of Disease Control & Epidemiology, Department of Health and Community Services

[9] Vaccine-preventable diseases are diseases which are highly preventable with the use of vaccines or immunization. Immunization refers to stimulation of the immune system to provide protection against disease.

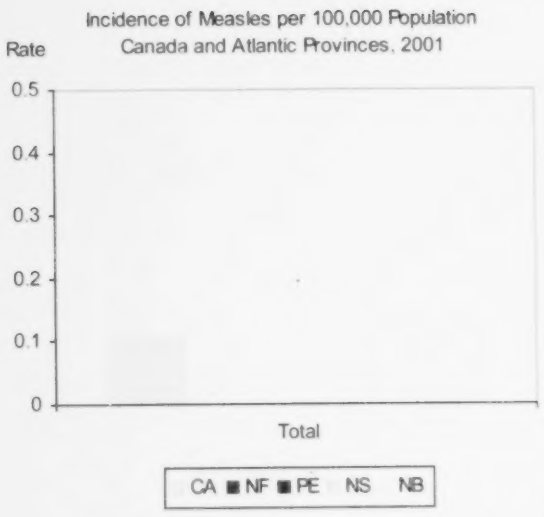
Measles Incidence Rate

The rate of new cases of measles reported by year. A confirmed case is defined as laboratory confirmation of infection in the absence of recent immunization with measles containing vaccine.

The Pan-American Health Organization adopted the goal of measles elimination by 2000; this objective has been adopted by all provinces and territories in Canada. Two doses of measles vaccine are required for complete protection; the first dose is given at 12 months and the second dose prior to school entry, at either 18 months or 4-6 years of age.

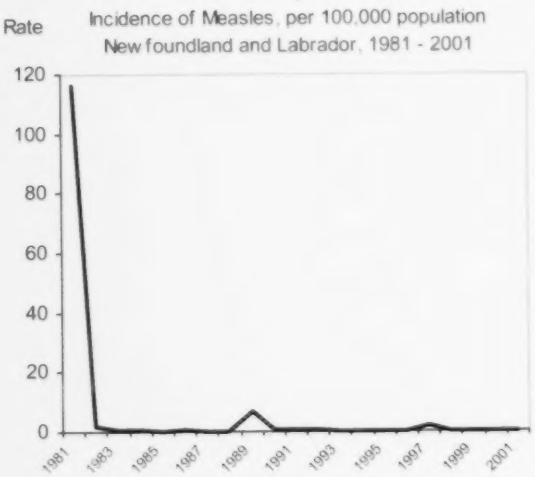
In the absence of global eradication, maintaining regional measles elimination requires ongoing, enhanced surveillance and continued high immunization coverage rates.

Measles is now a very rare disease, but worldwide it is still one of the leading causes of childhood morbidity and mortality. It tends to be forgotten that this disease is still around and also that it is very serious, which leads to pockets of reduced uptake of the measles vaccine. The result is that there are still incidents and outbreaks of measles across the globe leading to fatalities. The last major outbreak in Newfoundland and Labrador was in 1981. In the past two decades, the incidence rate for measles has remained low and for most years there have been no reported cases. Vaccination is very important in the ongoing fight to eliminate the disease.



Note: For instances where provinces are not represented by a bar in the graph, there were no reported cases of measles for that province for that year.

Source: Health Canada, Notifiable disease reporting and enhanced surveillance system



Source: Division of Disease Control & Epidemiology, Department of Health and Community Services

Haemophilus Influenzae b (invasive) (Hib) Disease Incidence Rate in Children

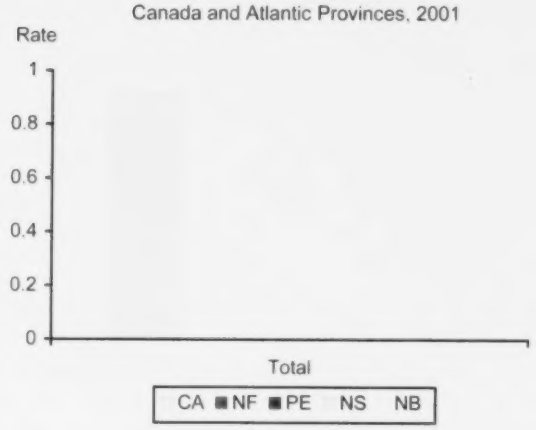
The rate of new cases of Hib reported by year in children under 5. A confirmed case is defined as invasive disease with laboratory confirmation of infection in the absence of recent immunization with Hib-containing vaccine.

Haemophilus influenza type b (Hib) was the most common cause of bacterial meningitis and a leading cause of other life threatening invasive disease in children throughout the world prior to the introduction of Hib vaccination in the mid to late 1980's. Vaccine preventable cases are now rare. The prevalence of Hib infections has declined remarkably since the introduction of vaccination programs.

In Newfoundland and Labrador, the last reported case of vaccine-preventable Hib disease was in 1991, at which time there was only one confirmed case. Throughout Canada, the largest decrease in Hib disease occurred between 1992 and 1993, following the introduction of infant-based vaccination programs nationwide. However, deaths and complications due to Hib continue to occur, reinforcing the need to vaccinate all eligible infants and children against this disease.

Immunizations during childhood for these and other diseases is very important in the fight against future outbreaks. In Newfoundland and Labrador, 98% of children have been fully immunized as they enter school. With this high rate of coverage, diseases which were once common are rarely seen.

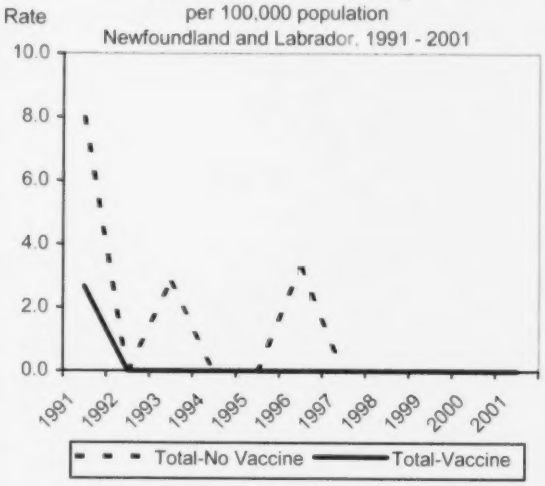
Incidence of Haemophilus Influenzae type b
Disease in Children Under 5 Years of Age,
per 100,000 Population
Canada and Atlantic Provinces, 2001



Note: The Atlantic provinces are not represented in the graph because there were no reported cases of Haemophilus influenza type b (Hib) in the Atlantic provinces for that year. Data for 2001 is preliminary and subject to change.

Source: Health Canada. Notifiable disease reporting and enhanced surveillance system.

Incidence of Haemophilus influenzae b Disease
in
Children Under 5 Years of Age
per 100,000 population
Newfoundland and Labrador, 1991 - 2001



Note: Data for 2001 is preliminary and subject to change.

Source: Division of Disease Control & Epidemiology, Department of Health and Community Services.

Estimated Proportion of Population who Report having been Diagnosed with Diabetes by a Health Professional[10]

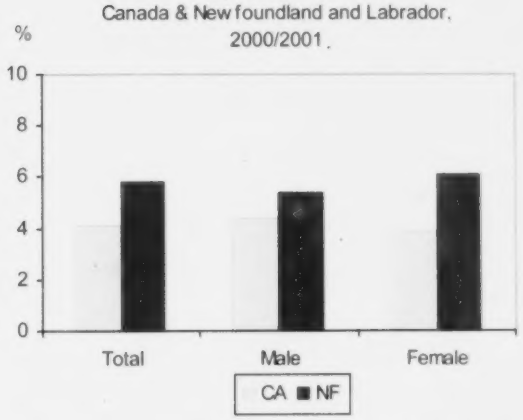
The proportion of the population[11] (aged 12 and over) who report having been diagnosed with diabetes by a health professional.

Self–management is a major cornerstone to diabetes management. The main modifiable risk factors for non-insulin dependent diabetes mellitus (Type 2 or adult onset diabetes) are obesity and physical inactivity. Numerous studies have found that individuals with diabetes regularly use their prescribed medication to a much greater extent than they follow recommendations for lifestyle changes such as diet and exercise. In addition, smoking, obesity, high blood pressure, and income inadequacy have been identified as risk factors for diabetes and can predispose individuals with existing diabetes to complications. The long term complications of diabetes include eye disease, kidney disease, cardiovascular disease, stroke, nervous system disorders and foot problems.

According to the 2000/01 Canadian Community Health Survey (CCHS), 4.1% of Canadians aged 12 and over report having been diagnosed by a health professional as having diabetes. In Newfoundland and Labrador 5.8% of the population (aged 12+ years) report having been diagnosed with diabetes by a health professional. Based on results from the National Population Health Survey (NPHS) for 1994/95, 1996/97, and 1998/99 and the 2000/01 Canadian Community Health Survey, the prevalence of diabetes in Newfoundland and Labrador is estimated to have increased from 3.9% in 1994/95 to 5.8% in 2000/01.

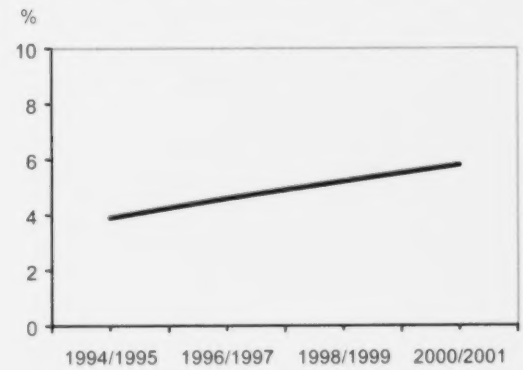
In general, diabetes prevalence in Canada has been most prominent among the older population, and has been higher among older males than older females. This higher prevalence of diabetes among males may be partially due to the higher rates of obesity among males than females. It should be noted, however, that diabetes might also induce obesity over time since diabetes complications can limit physical activity, and diabetes treatments sometimes result in weight gain.

Estimated Proportion of Population (Aged 12+) who Report Having Been Diagnosed with Diabetes by a Health Professional Canada & Newfoundland and Labrador, 2000/2001.



Source: Statistics Canada, National Population Health Survey, 1994/95, 1996/97, 1998/99; Canadian Community Health Survey, 2000/01

Estimated Proportion of Population (Aged 12+) who Report Having Been Diagnosed with Diabetes by a Health Professional, Newfoundland and Labrador, 1994/95 - 2000/01



Source: Statistics Canada, National Population Health Survey, 1994/95, 1996/97, 1998/99; Canadian Community Health Survey, 2000/01

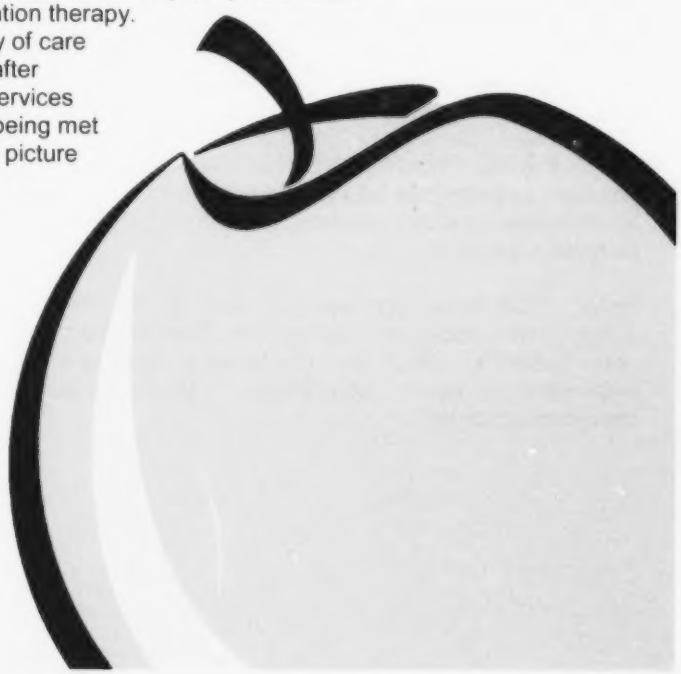
[10] Canadian Community Health Survey (CCHS) data is being used as a substitute indicator for diabetes in a population since National Diabetes Surveillance System (NDSS) data is unavailable for Newfoundland and Labrador.

[11] Does not include persons living on First Nation Reserves and on Crown lands, residents of institutions, full-time members of Canadian Armed Forces and residents of certain remote regions.

Quality of Service

Indicators in this category reflect several aspects of health quality (e.g., appropriateness, effectiveness, accessibility, acceptability). The indicators do not address all dimensions of service quality (e.g., efficiency, safety) primarily due to the limitations of existing data.

The level of accessibility to certain health services is demonstrated here by the presentation of wait times for services such as cardiac surgery and radiation therapy. Hospital re-admission data provide a measure of the quality of care received while in hospital, or at home or in the community after discharge. Patient satisfaction and access to 24/7 health services are an indication of whether the needs of a population are being met at an acceptable level. The indicators in this section give a picture of both quality of service and quality of life for a population.



Wait Times for Key Diagnostic and Treatment Services

In a publicly funded health care system such as Canada's, waiting periods for surgery and other services are common. Provincial/territorial health systems and health authorities have a role in achievement of reasonable wait times for services by ensuring effective management of wait lists and operating room schedules, effective bed utilization strategies, and appropriate budget allocation for prevention, treatment and follow-up care. Wait times for certain services such as cardiac surgery and radiation therapy reflect levels of accessibility to these services.

The collection and reporting of wait time data in Canada is relatively new. Systematic collection and comparison of wait time data is complex. Historically, different groups have defined and monitored wait times in different ways. For example, some calculate wait times from when a person first visits a family doctor. Others start the clock when the patient is assessed by a specialist or when the test results confirm the need for further treatment.

Based on the data currently available, wait times are considered to be an appropriate indication of access to care at this time. As systems for monitoring wait times are further developed, it is expected that more comprehensive reporting on wait times will be possible.

In addition to administrative data, some survey-based information on wait times is also reported. This information was collected by Statistics Canada through a supplement to the Canadian Community Health Survey. This Health Services Access Survey provides self-reported information related to waiting for specialist physician services, elective surgery and diagnostic services.

Note: Wait times are reported here for Cardiac Surgery and Radiation Therapy for Newfoundland and Labrador only, as comparable wait list information was unavailable for other provinces/territories.

Wait Times for Cardiac Surgery

Coronary Artery Bypass Grafting (CABG) is a common cardiac (or heart) surgery and wait times can be very long. These long wait times are sometimes associated with subsequent cardiac events, which occur at a cost to the health care system, and more importantly, at a cost to the patient. Thus, effective management of wait lists is necessary.

Wait times for CABG surgery presented here are measured by tracking the number of days waited between cardiac catheterization and CABG surgery, for patients who received surgery in a given period. This is an important, but certainly not the only, wait that a person might experience between development to resolution of cardiac symptoms. Cardiac catheterization is the passage of a small tubular, surgical instrument through a vein in an arm or leg or the neck, and into the heart allowing blood samples to be collected. This procedure aids in determining pressure within the heart, and in determinining whether there are any abnormalities.

The waiting period for elective procedures such as CABG could be used to enhance the patients' understanding of their disease and to learn how to reduce their risks for future cardiac problems. An Ontario study in 2000 provided exercise training and appropriate education to patients during the waiting period, and a cardiac rehabilitation program was offered to all patients after surgery. The outcome was an improvement in patients' functional abilities and quality of life, and a reduction in hospital stay.

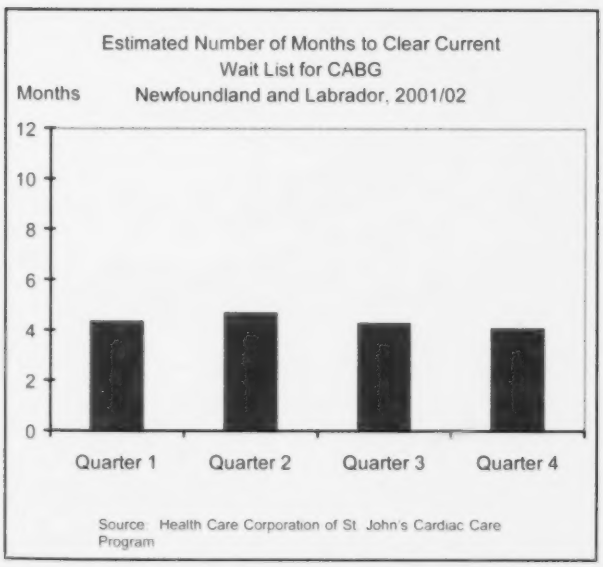
The waiting period for elective procedures such as CABG could be used to enhance the patients' understanding of their disease and to learn how to reduce their risks for future cardiac problems.

Estimated Number of Months to Clear Current Wait List for Coronary Artery Bypass Grafting (CABG)

Estimated number of months to clear the wait list of adults who had received cardiac catheterization and been designated by a physician as needing CABG surgery, but had not yet received surgery in the period in question.

In 2001/02, approximately 600 patients who were waitlisted for CABG surgery in Newfoundland and Labrador actually received surgery. On average, 40 to 60 surgeries were performed monthly. This translated into an estimated time of 4 to 5 months to clear wait lists for CABG surgery per quarter.

When interpreting this data it is important to keep in mind exactly what the numbers represent. The estimated number of months to clear the current wait list for CABG does not include all CABG cases. Those that were combined with other cardiac surgery procedures (for instance, valve surgery) are not included here. Thus, a significant number of waiting patients are excluded. Also, these numbers do not account for any new patients who were added to the wait list. For 2001/02 the provincial wait list maintained by the Health Care Corporation of St. John's added 15 patients per week to the overall waitlist and completed, on average, 13 cases per week. The net effect is an incremently growing waitlist for elective cardiac surgery.



The following was used in the calculation of the number of months to clear current wait list for CABG:

Numerator - total number of adults (aged 20 and over) who have received cardiac catheterization and been designated by a physician as needing CABG surgery, but have not yet received their surgery on the last day of the period in question.

Denominator - the average number of CABGs completed per month within the specified period.

Quarter	*Numerator*	*Denominator*
1	195	44.7
2	197	42.0
3	200	46.7
4	218	53.3

Source: Health Care Corporation of St. John's Cardiac Care Program

In 2001/02, approximately 600 patients who were waitlisted for CABG surgery in Newfoundland and Labrador actually received surgery. On average, 40 to 60 surgeries were performed monthly.

Median Wait in Days for Coronary Artery Bypass Grafting (CABG) Surgery

Median number of days waited between cardiac catheterization and CABG surgery for adults (aged 20 and older) who received CABG surgery in the period in question.

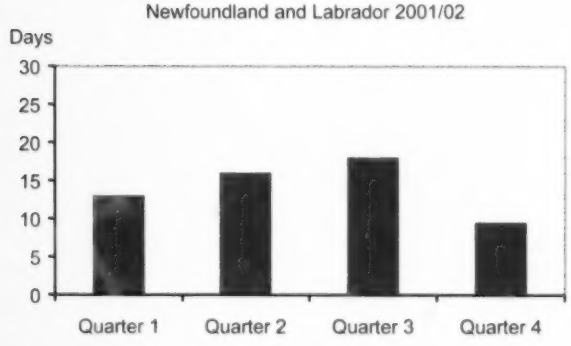
The median wait in days for CABG surgery represents the mid-point within the range of days patients waited for surgery. This means that half of CABG patients waited longer and half waited less time. It is not the average number of days patients waited for CABG surgery.

In Newfoundland and Labrador, the median wait for CABG surgery in 2000/01 varied by quarter, from a low of 9.5 days in Quarter 4 (January to March) to a high of 18 days in Quarter 3 (October to December).

It should be noted that the median wait in days for CABG surgery presented here tend to reflect the number of patients who are considered urgent and emergent cases that have received surgery; it does not reflect those patients who are waiting for elective cardiac surgery or considered "non-emergent", and thus may have been waiting for a prolonged period of time for CABG surgery.

In Newfoundland and Labrador, patients who require urgent and emergent CABG surgery have timely access to services. However, those on the elective wait list have significantly longer wait times. At present, approximately two-thirds of the elective patients awaiting cardiac surgery have been on the wait list longer than six months, more than one-half have been waiting longer than one year.

Median Wait in Days for CABG Surgery
Newfoundland and Labrador 2001/02



Source: Health Care Corporation of St. John's Cardiac Care Program

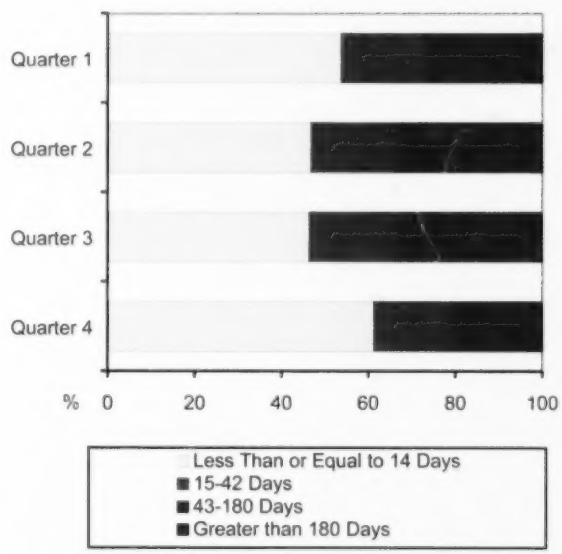
Distribution of Coronary Artery Bypass Grafting (CABG) Wait Times

Percent of adults (aged 20 and older) who received CABG surgery in the period in question and who waited 14 days or less, 15-42 days, 43-180 days, or more than 180 days, between cardiac catheterization and CABG surgery.

In 2001/02, patients receiving CABG surgery in Newfoundland and Labrador were more likely to undergo surgery within two weeks of having been put on the wait list. In each quarter, proportions ranged from 46.8% to 61.3% of patients receiving CABG surgery in fourteen days or less. Approximately 20% of these patients received surgery within 15 to 42 days of being put on the wait list. The proportion of patients who waited 43 to 180 days for surgery was between 19.4% and 31.0% per quarter. In all quarters, less than five percent of patients who had received surgery waited more than 180 days.

Again, when interpreting these data, it is important to remember that the numbers refer to patients who have received CABG surgery and not all patients on the wait list. Emergent and urgent cases comprise a significant proportion of these completed cases, and would likely have waited less time for surgery than non-emergency cases.

Distribution of CABG Wait Times,
Newfoundland and Labrador, 2001/02



Source: Health Care Corporation of St. John's Cardiac Care Program

Wait Times For Radiation Therapy

Estimated Number of Weeks to Clear Current Wait List for Radiation Therapy for (a) Breast Cancer and (b) Prostate Cancer

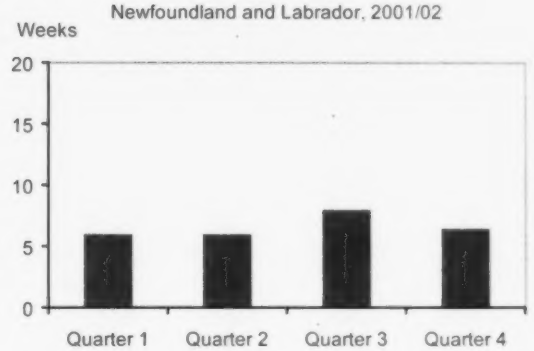
Estimated number of weeks to clear the current wait list of adults (aged 18+) referred for radiation therapy, but had not yet received therapy in the quarter in question.

Waiting times for radiation therapy treatments have likely resulted from factors, such as rising incidence rates of cancer, increasing referrals to radiation, human resource management and funding. Radiation involves the use of high-energy beams to kill cancer cells. The Canadian Association of Radiation Oncologists recommends a four-week maximum wait period for radiation treatment. However, the average wait for radiation oncology in Canada is 8.9 weeks. It is possible that the high wait times are due to an estimated shortage of professionals capable of providing the necessary treatment. This sometimes forces patients to either wait for treatment or to travel to the United States to pay for radiation therapy.

There have been several suggestions as to how to alleviate problems in attaining radiation treatment in Canada. Some recommended solutions include better planning, larger educational programs and finding and utilizing additional resources. Various Canadian researchers have even suggested changing the standards that are present today for acceptable wait times. More specifically, some researchers have found that waiting times for radiation do not appear to have a major impact on cancer outcomes. Another suggestion involves the reduction of the course of radiation treatment. A recent study conducted in Ontario indicated that three weeks of radiation was as effective as the standard five weeks that usually follows lumpectomy (surgical removal of cancerous mass) for early stage breast cancer. If this reduction in course of treatment is further supported by future studies, it may be an effective way not only to shorten wait lists for radiation, but also to make treatment easier for those with breast cancer.

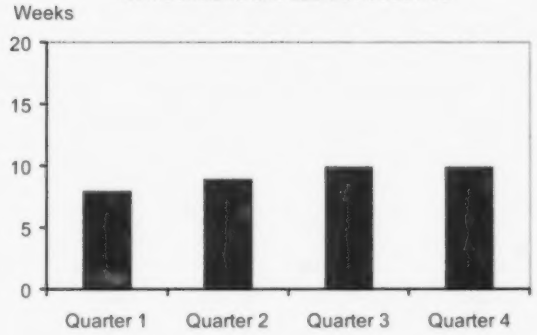
In Newfoundland and Labrador, the estimated number of weeks to clear the wait list for radiation therapy for breast cancer varied by quarter from six to eight weeks, in 2001/02. For prostate cancer, the range was eight to ten weeks. These estimates do not include those patients who were delayed receiving radiation therapy because they were currently undergoing another intervention such as surgery, chemotherapy, or hormone therapy.

Estimated Number of Weeks to Clear Current Wait List for Radiation Therapy for Breast Cancer, Newfoundland and Labrador, 2001/02



Source: Newfoundland Cancer Treatment and Research Foundation

Estimated Number of Weeks to Clear Current Wait List for Radiation Therapy for Prostate Cancer, Newfoundland and Labrador, 2001/02



Source: Newfoundland Cancer Treatment and Research Foundation

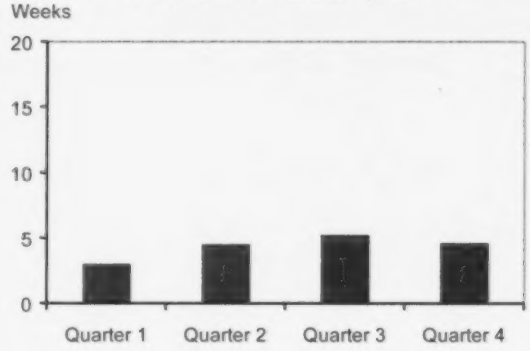
Median Wait Time for Radiation Therapy for (a) Breast Cancer and (b) Prostate Cancer

Median number of weeks from the time that the oncologist made a decision, in consultation with the patient, that radiation therapy was required and the date that radiation therapy commenced, for the period in question.

The numbers presented here reflect the time period from April 2001 to March 2002. The median wait time indicates the midpoint of the range of waiting periods experienced by breast and prostate cancer patients – half the patients waited longer and half waited less time. It is not the average number of weeks waited for radiation therapy. Waiting period is defined as the period between the time of request for radiation therapy by a Radiation Oncologist to the first treatment for either breast or prostate cancer.

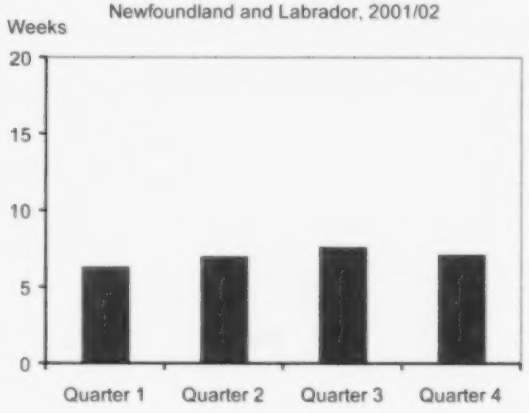
The median wait time for radiation therapy for women in Newfoundland and Labrador afflicted with breast cancer ranged from 3 weeks in Quarter 1 (April to June) to 5.2 weeks in Quarter 3 (October to December). For men waiting for radiation therapy for prostate cancer, the median wait ranged from 6.3 weeks in Quarter 1 to 7.6 weeks in Quarter 3. Again, patients who experienced delays in receiving radiation therapy because they were undergoing other treatments were not included in the calculations here.

Median Wait in Weeks for Radiation Therapy for Breast Cancer, Newfoundland and Labrador, 2001/02



Source: Newfoundland Cancer Treatment and Research Foundation

Median Wait in Weeks for Radiation Therapy for Prostate Cancer, Newfoundland and Labrador, 2001/02



Source: Newfoundland Cancer Treatment and Research Foundation

Reported Wait Times for Specialist, Diagnostic Tests and Surgery[12]

Reported Median Wait Time for (a) Specialist Physician Visits, (b) Diagnostic Services, and (c) Surgery

Reported wait time refers to the length of time, in weeks, between the patient being referred for a specialized service and receiving the service, during the 12 months prior to the survey.

The median is the 50th percentile of the distribution of wait times: half the patients wait less and half wait longer than the median number of weeks. Patients who have not yet received the service are excluded from the indicator calculation.[13]

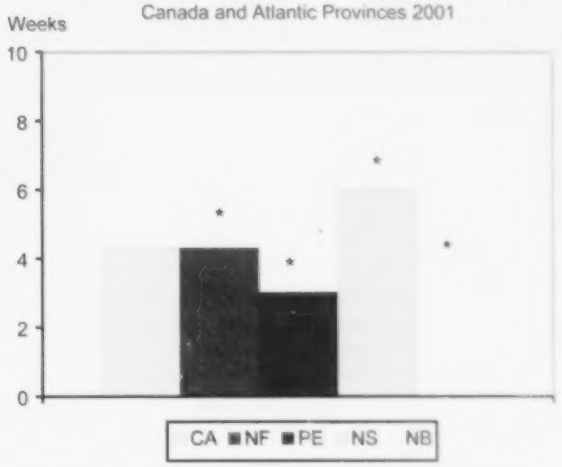
Note: specialist physician visits include visits for a new illness or condition only; diagnostic tests include non-emergency MRI's, CT Scans and angiographies only; surgery includes only non-emergency cases.

According to the Health Services Access Survey (2001), Canadians who have experienced lengthy waits for specialized services felt that their waiting times were unacceptable and report experiencing adverse effects such as worry, stress, and anxiety while waiting for care.

In 2001, median wait time for non-emergency surgery, as reported by Newfoundlanders and Labradorians, was 4.3 weeks and did not differ from that reported by the overall Canadian population (4.3 weeks).

Note: Statistics Canada has suggested that data for median wait times for specialist visits and diagnostic services not be reported for Newfoundland and Labrador because of high sampling variability.

Median Wait in Weeks for Non-Emergency Surgery, Canada and Atlantic Provinces 2001



* Statistics Canada has suggested interpreting wait times for these jurisdictions with caution because of sampling variability.

Source: Statistics Canada, Canadian Community Health Survey – Cycle 1.1 – 2000/01; Health Services Access Survey (supplement to CCHS) – Nov-Dec 2001

Distribution of Reported Wait Times for (a) Specialist Physician Visits, (b) Diagnostic Services, and (c) Surgery

Reported wait time refers to the length of time, in weeks, between the patient being referred for a specialized service and receiving the service.

The indicator is the percent of those requiring a specialized health service who reported waiting less than 1 month, between 1 and 3 months, or more than 3 months to receive the service, during the 12 months prior to the survey. Patients who have not yet received the service are excluded from the indicator calculation.[14]

The distribution of wait times for Newfoundlanders and Labradorians who report waiting for and accessing certain health services varies depending on the nature of the patients' needs. Those waiting for a visit with a specialist physician for a new illness or condition tended to wait less than one month (55.5%). A smaller proportion (27.9%) reported waiting 1 to 3 months to

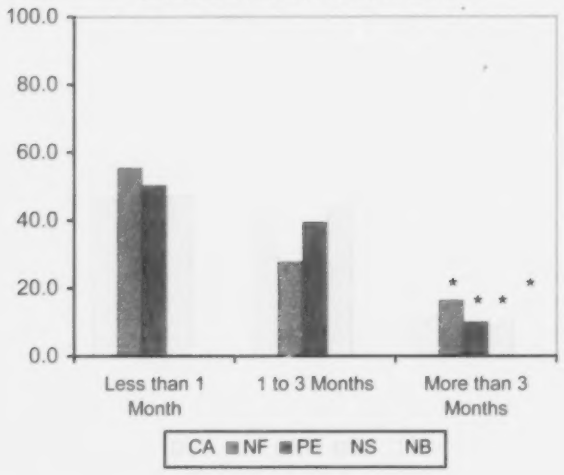
[12] Wait times here are based on the results of the Health Services Access Survey (HSAS) a supplement to the Canadian Community Health Survey (Statistics Canada). The HSAS was used to collect information from Canadians on the patterns of use and potential barriers faced in accessing health care when needed. This is a subjective measurement and all numbers are self-reported.

[13] Does not include persons living on First Nation Reserves and on Crown lands, residents of institutions, full-time members of Canadian Armed Forces and residents of certain regions.

[14] Does not include persons living on First Nation Reserves and on Crown lands, residents of institutions, full-time members of Canadian Armed Forces and residents of certain remote regions.

see a specialist. The same is true for those waiting for and receiving selected diagnostic tests (non-emergency MRI, CT scan and angiography) – nearly 60% waited less than one month before receiving the necessary test, and just over 30% reported waiting 1 to 3 months. Compared to the other Atlantic provinces and Canada as a whole, in 2001 wait times for these services were similar, with the exception of residents of New Brunswick who were less likely to report having visited a specialist physician within one month of waiting (36.9%).

Distribution of Wait Times for Specialist Physician Visits, less than 1 month, 1-3 months, more than 3 months, Canada and Atlantic Provinces 2001

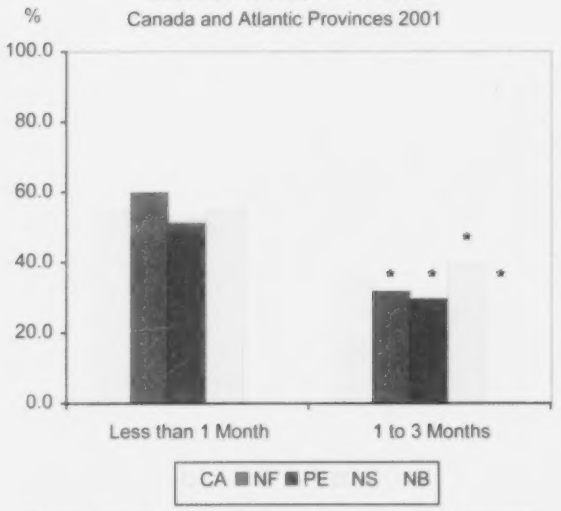


* Statistics Canada has suggested interpreting wait times for these jurisdictions with caution because of sampling variability.

Source: Statistics Canada, Canadian Community Health Survey – Cycle 1.1 – 2000/01; Health Services Access Survey (supplement to CCHS) – Nov-Dec 2001.

During 2001, the distribution of wait times for non-emergency surgery (e.g. joint replacement surgery, cataract surgery) for residents of Newfoundland and Labrador was similar to that for residents of the other Atlantic Provinces and Canada as a whole. Nearly 43% of patients reported waiting for and receiving non-emergency surgery within one month of waiting, and an additional 49.2% reported receiving non-emergency surgery within 1-3 months of waiting.

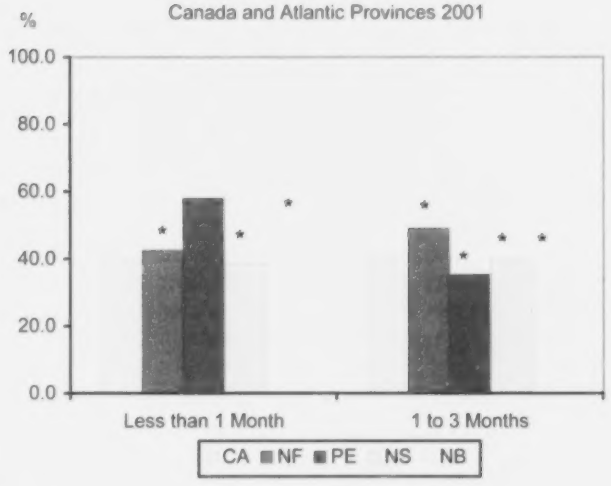
Distribution of Wait Times for Diagnostic Services less than 1 month, 1-3 months, Canada and Atlantic Provinces 2001



* Statistics Canada has suggested interpreting wait times for these jurisdictions with caution because of sampling variability.

Source: Statistics Canada, Canadian Community Health Survey – Cycle 1.1 – 2000/01; Health Services Access Survey (supplement to CCHS) – Nov-Dec 2001.

Distribution of Wait Times for Non-Emergency Surgery less than 1 month, 1-3 months, Canada and Atlantic Provinces 2001



* Statistics Canada has suggested interpreting wait times for these jurisdictions with caution because of sampling variability.

Source: Statistics Canada, Canadian Community Health Survey – Cycle 1.1 – 2000/01; Health Services Access Survey (supplement to CCHS) – Nov-Dec 2001.

Patient Satisfaction

Percentage of the adult population who rate themselves as either very satisfied or somewhat satisfied with the quality of: (a) overall health care services received; (b) services received in a hospital; (c) services received from a family doctor or other physician; and (d) community-based services received.

These indicators apply to individuals who received health care services within a 12-month reference period. The individual's assessment of the quality of care received and the satisfaction with the services are measured. The indicators apply to surveyed individuals 15 years of age and older living in private households.

Patient Satisfaction – Overall Health Care

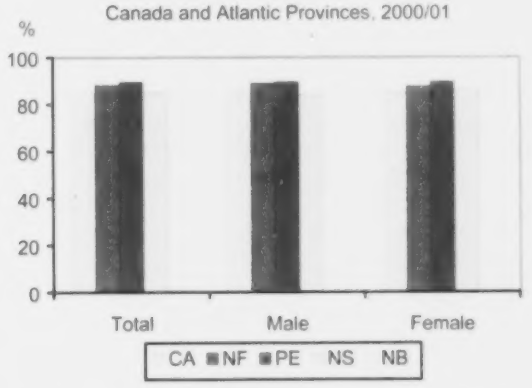
Inclusion of patients' opinions in assessments of health care services has been gaining greater support. Patient satisfaction has emerged as an increasingly important health outcome and is used to evaluate quality of care, to evaluate which aspects of services need to be changed, and to compare different health care programs and systems.

Patient satisfaction plays an important role in continued use of health services and in patient compliance with medical regimes and treatments. Research has shown that older patients are generally more satisfied with health care services than younger patients, and that patient satisfaction does not vary by gender. It has been suggested that health status plays a role in patient satisfaction, since patients who report their health as poor tend to be less satisfied than those who describe their health more positively.

In 2000/01, 84.6% of Canadians indicated that they are satisfied with the overall health care they have received in this country. Despite this, the view of some is that there is a declining confidence in the system and its ability to provide the care needed. In addition, the CIHI report "Health Care in Canada 2001", states that many surveys have found that respondents give a higher rating to the care they or their family received, than to the health system in general.

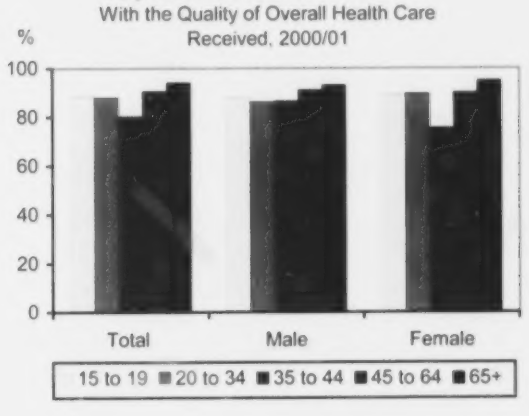
In 2000/01, 88.1% of Newfoundlanders and Labradorians reported themselves to be satisfied with overall health services received in the past year. This was a higher rate than the overall Canadian population (84.6%). While some variation exists, both males and females in the 65+ age group reported themselves as satisfied at a greater rate than the Canadian averages for the same age groups. In Newfoundland and Labrador, those least likely to be satisfied with overall health care tended to be females aged 35-44 (75.4%); those most satisfied tended to be females aged 65+ (94.9%). Consistent with recent research, there was no overall difference in the rate at which male and female Newfoundlanders and Labradorians reported themselves as satisfied with the quality of health services received.

Percentage of the Population (Aged 15+) Very Satisfied or Somewhat Satisfied with Quality of Overall Health Care Received, by Gender, Canada and Atlantic Provinces, 2000/01



Source: Statistics Canada, Canadian Community Health Survey – Cycle 1.1 – 2000/01 (sub-sample)

Percentage of the Newfoundland & Labrador Population by Age Group and Gender Very Satisfied or Somewhat Satisfied With the Quality of Overall Health Care Received, 2000/01



Source: Statistics Canada, Canadian Community Health Survey – Cycle 1.1 – 2000/01 (sub-sample)

Patient Satisfaction – With Most Recent Hospital Care Received

When considering males and females together, Newfoundlanders and Labradorians reported themselves to be satisfied with services received in hospital during the 2000/2001 year, at a higher rate (83.2%) than did the overall Canadian population (79.5%). Of the remaining Atlantic Provinces, Prince Edward Island was the only other province whose residents indicated they were satisfied (85.3%) with these services at a rate higher than the Canadian population.

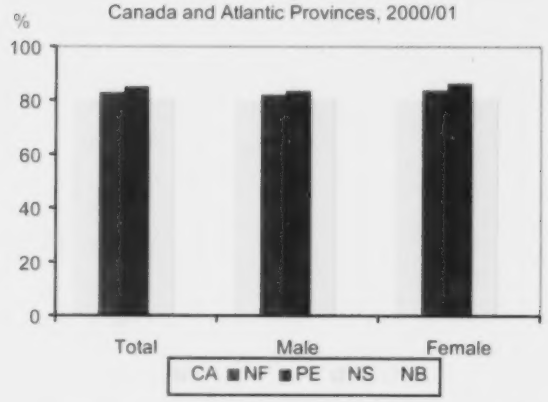
Research has indicated that Canadians feel one of the most important factors related to level of satisfaction with hospital care is the nursing care they received.

While some variation exists within the Newfoundland and Labrador population, overall, those in the 45-64 year and the 65+ year age groups reported themselves to be satisfied with services at a higher rate (91.2% and 94.3%, respectively) than those in the 20-34 and 35-44 age groups (78.0% and 69.8%, respectively).

In Newfoundland and Labrador, those least likely to report they were satisfied with the quality of their most recent hospital care were males aged 35-44 years (67.7%); while those most satisfied were females aged 65+ (97.3%).

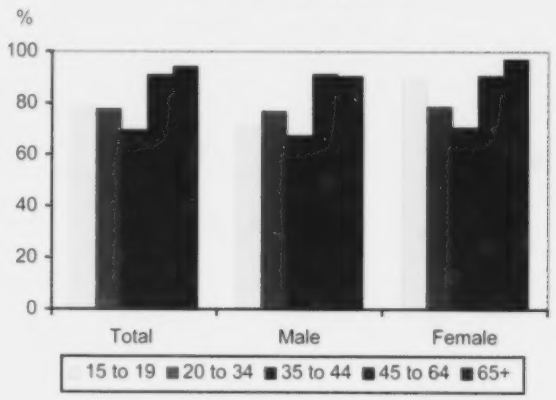
Newfoundlanders and Labradorians reported themselves satisfied with services received in hospital during the 2000/01 year, at a higher rate (83.2%) than did the overall Canadian population (79.5%).

Percentage of the Population (Aged 15+) Very Satisfied or Somewhat Satisfied with the Quality of Most Recent Hospital Care Received, by Gender, Canada and Atlantic Provinces, 2000/01



Source: Statistics Canada, Canadian Community Health Survey – Cycle 1.1 – 2000/01 (sub-sample)

Percentage of the Newfoundland & Labrador Population, by Age Group and Gender, Very Satisfied or Somewhat Satisfied With the Quality of Most Recent Hospital Care Received in Hospital, 2000/01



Source: Statistics Canada, Canadian Community Health Survey – Cycle 1.1 – 2000/01 (sub-sample)

Patient Satisfaction – Most Recent Family Doctor or Other Physician Care Received

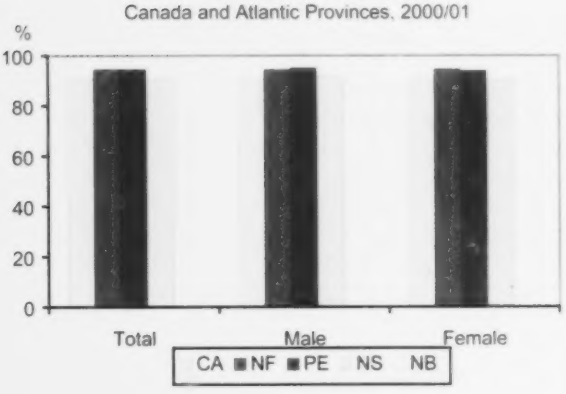
Studies have shown that patient satisfaction with services received from a family doctor or other physician is associated with different aspects of the doctor visit. Most patients have specific expectations for their doctor visit, and studies have shown that having fewer unmet expectations is associated with greater satisfaction. It has also been found that patient satisfaction is associated with length of visit, and that satisfaction can be enhanced by spending a small proportion of the visit chatting about non-medical topics. In addition, display of warmth, friendliness and concern for the patient, provision of clear cut explanations concerning diagnosis and causation of illness, and avoiding use of medical jargon have all been found to increase patient satisfaction.

Overall, in 2000/01 Newfoundlanders and Labradorians reported themselves to be satisfied with services received from a family doctor or other physician, at a higher rate (94.5%) than the overall Canadian population (90.9%). Similar to the other Atlantic Provinces, there was no overall difference in the rate at which males and females in this province rated themselves as very or somewhat satisfied with physician services.

The group with the lowest percentage reporting being satisfied were females age 20 to 34 with 91.7%, while the group with the highest rate of satisfaction were females aged 35 to 44 at 97.8%.

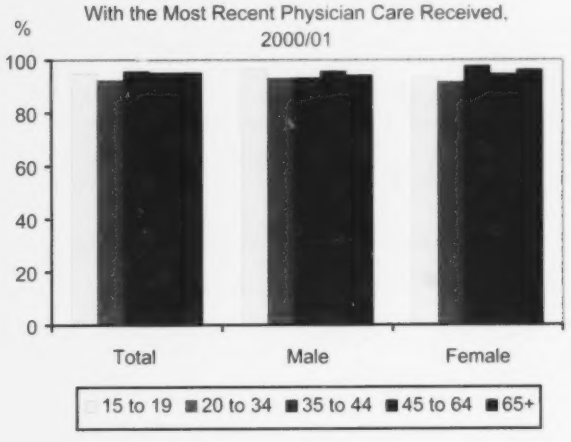
Overall, in 2000/01 Newfoundlanders and Labradorians reported themselves to be satisfied with services received from a family doctor or other physician, at a higher rate (94.5%) than the overall Canadian population (90.9%).

Percentage of the Population (Aged 15+) Very Satisfied or Somewhat Satisfied with the Most Recent Physician Care Received by Gender, Canada and Atlantic Provinces, 2000/01



Source: Statistics Canada, Canadian Community Health Survey – Cycle 1.1 – 2000/01 (sub-sample)

Percentage of the Newfoundland & Labrador Population by Age Group and Gender Very Satisfied or Somewhat Satisfied With the Most Recent Physician Care Received, 2000/01



Source: Statistics Canada, Canadian Community Health Survey – Cycle 1.1 – 2000/01 (sub-sample)

Patient Satisfaction – Most Recent Community-Based Health Care

Patient satisfaction with community-based services is important in identifying community-specific needs and priorities, and in identifying the strengths and weaknesses of existing programs and services.

For the 2000/2001 year, the Newfoundland and Labrador population aged fifteen years and older reported satisfaction with community-based services at a greater rate (96.1%) than the overall Canadian population (81.7%). In fact, for each of the Atlantic Provinces the percentage of the population indicating that they were satisfied with the most recent health care received in the community was higher than the overall Canadian population.

One hundred percent of surveyed female Newfoundlanders and Labradorians reported satisfaction with community-based health services. The rate at which Newfoundland and Labrador males reported themselves satisfied was comparable at 91.1%.

Within the province of Newfoundland and Labrador, those in the 20-34 year age group were the least likely to be satisfied with the community-based services received (87.5%); while older age groups (45-64 and 65+) were the most satisfied (100%).

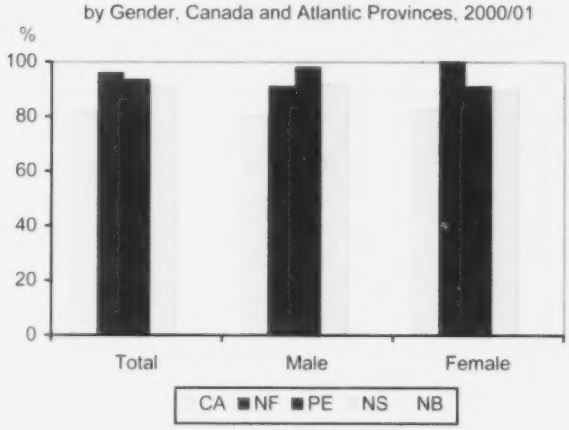
It is not possible to make comparisons within each gender for patient satisfaction with community-based services since data is unavailable for certain subgroups of the population.

Community-based health care includes....

- ***home nursing care***
- ***home-based counselling or therapy***
- ***personal care community walk-in clinics***
- ***other health care received outside of a hospital or a doctor's office.***

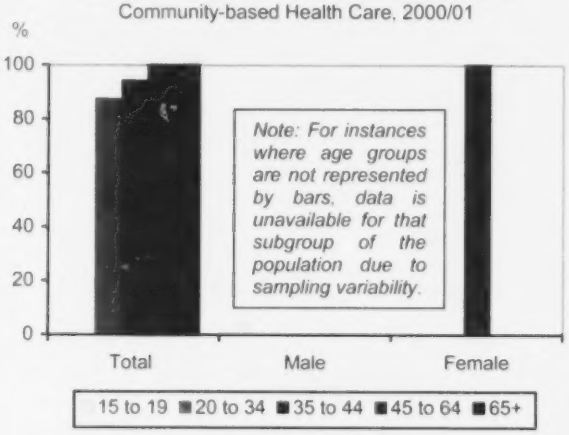
Canadian Community Health Survey, 2000/01

Percentage of the Population (Aged 15+) Very Satisfied/Somewhat Satisfied with Most Recent Community-based Health Care Received by Gender, Canada and Atlantic Provinces, 2000/01



Source: Statistics Canada, Canadian Community Health Survey – Cycle 1.1 – 2000/01 (sub-sample)

Percentage of the Newfoundland & Labrador Population by Age Group and Gender Very Satisfied or Somewhat Satisfied with Most Recent Community-based Health Care, 2000/01



Source: Statistics Canada, Canadian Community Health Survey – Cycle 1.1 – 2000/01 (sub-sample)

Access to 24/7 First Contact Health Services

Note: Access to 24/7 health care is a subjective measurement, and all numbers are self-reported. Access to 24/7 refers to the following reported usage of those services on a 24/7 basis. These numbers are a basic, subjective representation of the answer to the question: Do people have access to the services they need when they are needed?

Access to 24/7 first contact health services provides some measure of the availability of services 24 hours a day, 7 days a week, and include (a) information and advice; and (b) direct treatment services, which may be obtained through first contact with the health system, to meet immediate or routine health care needs.

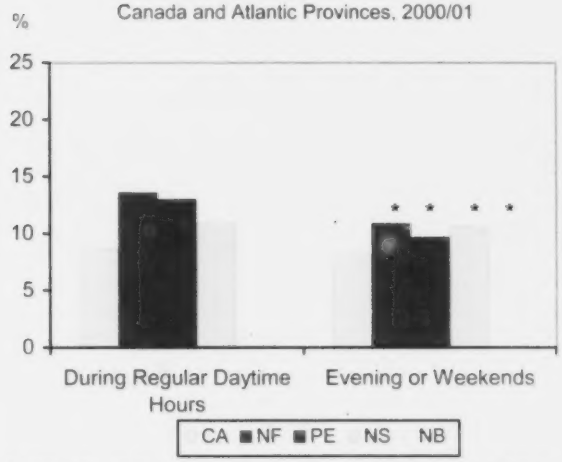
The following indicators are reported: the percentage of individuals reporting having experienced difficulty obtaining (a) routine or on-going health services; (b) health information or advice; or (c) immediate care for a minor health problem; and, (d) the percent having a regular family doctor. These indicators focus on non-emergency services because of their role in promoting health and preventing more serious health problems, and because less is known about access to these services.

Percent Who Experienced Difficulties Obtaining Routine or On-going Health Services

Percent who required routine or ongoing health services for self or a family member in the past 12 months and experienced difficulties obtaining them during (a) regular daytime hours (9 am – 5 pm, Mon-Fri); and (b) during evenings or weekends (5-9 pm Mon-Fri, and Sat or Sun)[15]

The ability to obtain routine care when needed is believed to be important in maintaining health, preventing health emergencies and preventing the inappropriate use of services (e.g., use of hospital emergency rooms for non-emergencies). Access to health care also plays a very important part in maintaining and providing high quality health services to the public.

Percent who Report Difficulties in Obtaining Routine or On-Going Health Services, Canada and Atlantic Provinces, 2000/01



* Statistics Canada has suggested interpreting this information for these jurisdictions with caution because of sampling variability.

Source: Statistics Canada: Health Services Access Survey 2001: Supplement to the Canadian Community Health Survey 2000-01

Similar to residents of Prince Edward Island (13.0%), a higher percentage of Newfoundlanders and Labradorians (13.6%) report having difficulties accessing routine or ongoing care during regular daytime hours than residents of Nova Scotia (10.9%) and New Brunswick (11.2%), and the overall Canadian population (8.6%).

According to the Health Services Access Survey conducted by Statistics Canada in 2001, those who reported having difficulties accessing routine or ongoing care during regular daytime hours often indicated that they had problems getting an appointment or had to wait too long for their appointment. During evenings and weekends, individuals who had difficulties accessing routine or on-going care reported lengthy in-office wait times as the major barrier to care.

[15] Does not include persons living on First Nation Reserves and on Crown lands, residents of institutions, full-time members of Canadian Armed Forces and residents of certain remote regions.

Percent Who Experienced Difficulties Obtaining Health Information or Advice

Percent who required health information for self or a family member in the past 12 months and experienced difficulty obtaining it (a) during regular daytime hours; (b) during evenings or weekends; and (c) at night.[16]

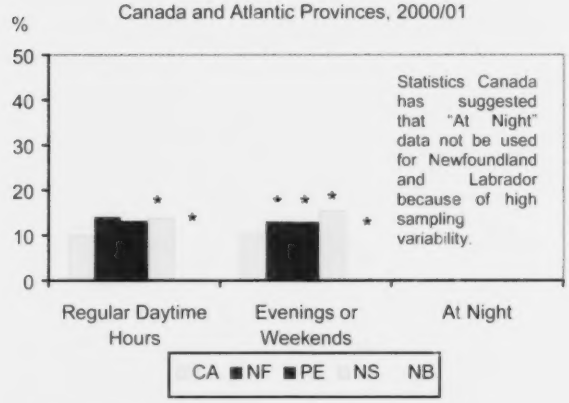
Access to information or advice is believed to be important to maintaining health and ensuring appropriate access to health services. It is estimated that nearly 150,000 individuals in this province sought out and accessed health information or advice in 2000/01. Of these, 17.2% reported experiencing some difficulty in obtaining this information or advice. In Canada, 13.1% experienced the same difficulty. There seems to be no difference in amount of difficulty experienced any time of day by Newfoundlanders and Labradorians – 14.1% reported difficulty during regular hours, 13.0% reported difficulty during evenings and weekends.

Percent Who Required Immediate Care for a Minor Health Problem

Percent who required immediate care for a minor health problem for self or a family member in the past 12 months and reported experiencing difficulty obtaining it (a) during regular daytime hours; (b) during evenings or weekends; and (c) at night.[17]

The ability to obtain needed care for emergent but minor health problems is believed to be important in restoring health, preventing health emergencies, and preventing inappropriate use of services (e.g., use of hospital emergency rooms for non-emergencies). In Newfoundland and Labrador during 2001, an estimated 36.6% of the population required immediate care for a minor health problem. Of those who accessed care, 23.7% (38,000 individuals) reported some difficulty. In Canada, of the 33.9% of individuals requiring the same care, 18.8% reported experiencing difficulty.

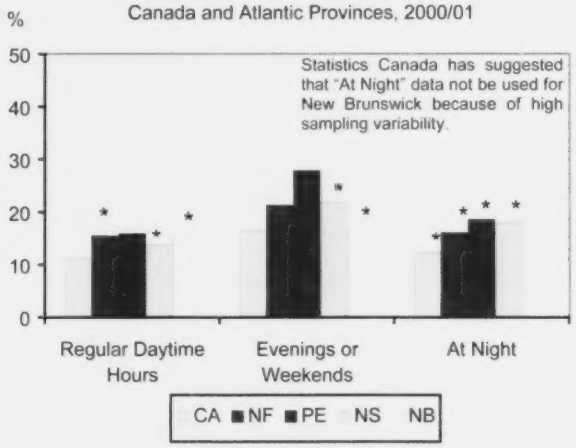
Percent Who Report Difficulties in Obtaining Routine Health Information or Advice
Canada and Atlantic Provinces, 2000/01



* Statistics Canada has suggested interpreting this information for these jurisdictions with caution because of sampling variability.

Source: Statistics Canada: Health Services Access Survey 2000: Supplement to the Canadian Community Health Survey 2000-01.

Percent Who Report Difficulties in Obtaining Immediate Care for a Minor Health Problem
Canada and Atlantic Provinces, 2000/01



* Statistics Canada has suggested interpreting this information for these jurisdictions with caution because of sampling variability.

Source: Statistics Canada: Health Services Access Survey 2001: Supplement to the Canadian Community Health Survey 2000-01.

[16] Does not include persons living on First Nation Reserves and on Crown lands, residents of institutions, full-time members of Canadian Armed Forces and residents of certain remote regions.

[17] Does not include persons living on First Nation Reserves and on Crown lands, residents of institutions, full-time members of Canadian Armed Forces and residents of certain remote regions.

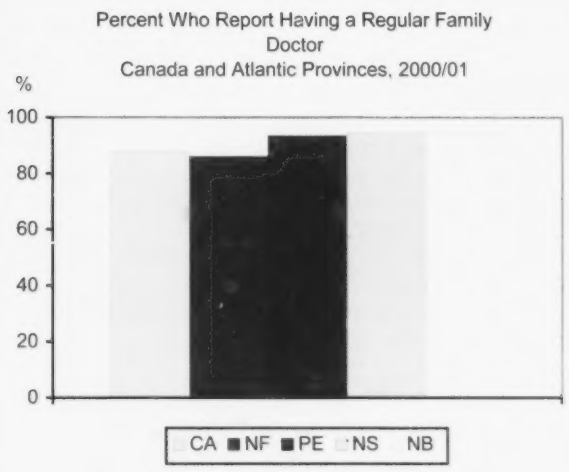
Percent of Population Having a Regular Family Doctor

Percent of total survey respondents who answer "yes" to the question: "Do you have a regular family doctor?"[18]

Establishing an ongoing relationship with a family doctor is believed to be important in maintaining health and ensuring appropriate access to health services.

Similar to the overall Canadian population, most Newfoundlanders and Labradorians report having a regular family doctor. More than 85% of surveyed Newfoundlanders and Labradorians indicated that they have a regular family physician.

Of the nearly 15% of Newfoundlanders and Labradorians who reported not having a doctor, 65.9% cited physician unavailability (i.e., no physician was available, available physicians were not taking new patients, or physicians had recently retired or left the area). Another 29.9% of those had not tried to contact a physician. In Canada, these percentages were 28.6% for physician unavailability and 62.6% who had not tried to contact a physician.



Source: Statistics Canada, Health Services Access Survey 2001, Supplement to the Canadian Community Health Survey 2000-01

More than 85% of surveyed Newfoundlanders and Labradorians indicated that they have a regular family physician.

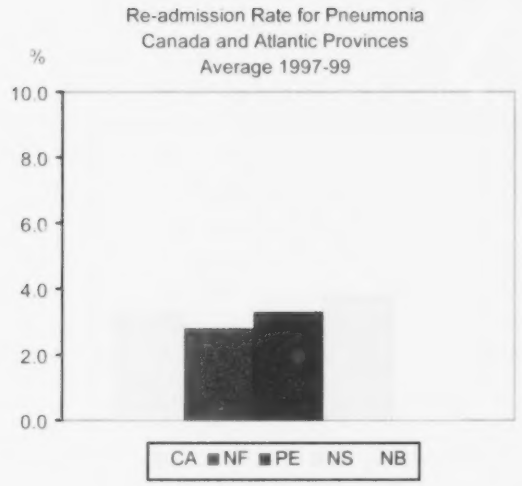
[18] Does not include persons living on First Nation Reserves and on Crown lands, residents of institutions, full-time members of Canadian Armed Forces and residents of certain remote regions.

Hospital Re-admissions for Selected Conditions

Hospital re-admission rates can provide one measure of the quality of care. Many factors may be related to a hospital re-admission for a related condition; for example, medication prescribed at initial discharge from hospital, patient compliance with directions, the availabliity and quality of follow-up care in the community, and the quality and completeness of care during initial hospitalization. Some of these factors are directly related to care at the hospital, while others relate to the availability of appropriate services in the community.

Re-admission Rate for Pneumonia

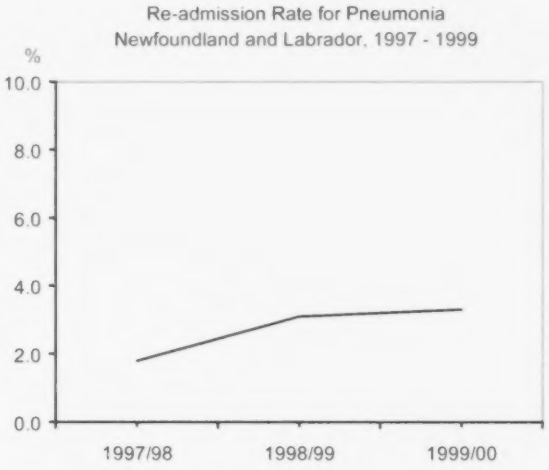
Risk-adjusted rate of unplanned re-admission following admission for Pneumonia. A case is counted as a re-admission if it is for a relevant diagnosis or procedure and occurs within 28 days after the index episode of care. An episode of care refers to all continuous acute care hospitalizations including transfers.



Source: Hospital Morbidity Discharge Abstract Database, CIHI

There is wide variation in the processes and outcomes of care for pneumonia patients. For the well-being of the patient, it is crucial that premature release from the hospital does not occur. Instability of patients at the time of discharge has been associated with negative health outcomes and often results in the patient's re-admission to hospital. An effective and safe method of discharge should include the review of objective criteria, which help to judge patients' stability and physical readiness to leave. While it is important to encourage short hospital stay periods, it is also important that shortening length of stay does not jeopardize patient well-being.

For Newfoundland and Labrador, the percentage of hospital stays due to pneumonia which resulted in a subsequent re-admission within 28 days was 2.8% in the period 1997 to 1999. In Canada, the rate was 3.3%. Rates were similar in other Atlantic Canadian provinces.



Source: Hospital Morbidity Discharge Abstract Database, CIHI

Home and Community Care Services[19]

Home and Community Care in Newfoundland and Labrador is provided through a broad range of programs and services and by varying types of service providers. Not unlike the rest of the country, the services and programs in this province can be divided into two general categories: Home Support and Professional Home Health Care.

Home Support[20] services are considered an essential part of the continuum of health services. Home Support allows people with health or functional deficits to live independently, and in many cases, prevents hospitalization and/or institutionalization.

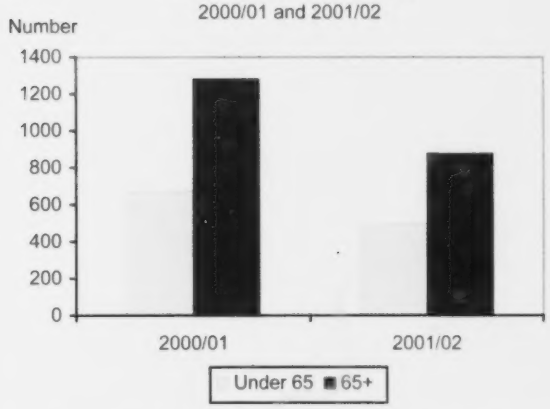
While the purpose of Professional Home Health Care is not unlike that of home support itself, the services are provided by professionals and are not subject to financial eligibility screening, but rather based on referred needs. These services are provided in an individual's home by Registered Nurses in all regions of the province, but may also include the services of Physiotherapists, Occupational Therapists, and Dieticians in some regions.

Admissions[21] to Home Support Program per Capita, Under 65 Years and 65+[22] Years

The number of admissions to the provincial Home Support Program (under age 65 and age 65+) per capita.

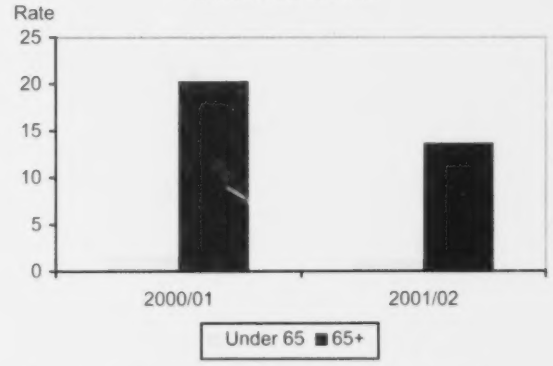
Home Support services are currently offered to seniors (age 65+), persons with disabilities, and children, youth and their families. These services are delivered by non-professional staff and include:

Admissions to Home Support Program
Newfoundland and Labrador,
2000/01 and 2001/02



Source: Health and Community Services Regions and Integrated Health Boards, Newfoundland and Labrador

Admissions to Home Support Program
per 1,000 Population
Newfoundland and Labrador,
2000/01 and 2001/02



Source: Health and Community Services Regions and Integrated Health Boards, Newfoundland and Labrador

personal care, household management, behavioural management and respite services. Individuals may be eligible for the home support based on demonstrated need and financial eligibility. A person demonstrates their need through a formal assessment process and financial eligibility is determined by a financial assessment.

During 2001/02, 1,376 individuals (2.6 admissions/1000 population) were admitted to the Home Support Program. This is down substantially from 1,957 (3.7 admissions/1000 population) the year before, with the major reason being provincial policy changes in admissions to the program due to fiscal restraint.

[19] Note: Comparable data for Home Care admissions was unavailable for all provinces. Differences exist in delivery of services and administrative data holdings.

[20] Note that this does not include home maintenance, home adaptation, nor transportation as these are not considered home support – home maintenance and adaptation, in particular, are part of the provincial home repair program administered by the Newfoundland and Labrador Housing Corporation.

[21] Data may include multiple admissions for the same client (an individual may be counted more than once in a given fiscal year) only if s/he was discharged from the home care program and accepted for another period of service within that year.

[22] May include a small number of individuals less than 65 years of age.

While individuals age 65 and over comprise approximately 12 percent of the population of the province, there were nearly twice as many Home Support admissions in this age group than in the under 65 population. This is not surprising given that the rate of discharge (due to admission to facilities or death) among this group is much higher than for the younger populations. The majority of individuals under the age of 65 receiving Home Support do so due to physical disability or developmental delay and are generally in receipt of these services for much of their lifetime.

It should also be noted that Home Support in the province is also provided by agencies that are outside the jurisdiction of the provincial government. These include, the federal Department of Veterans Affairs Canada (who provide home support to veterans across the country) and First Nations, Inuit, and Metis agencies in Labrador, who are funded by Health Canada.

Admissions[23] to Professional Home Health Care Program per capita

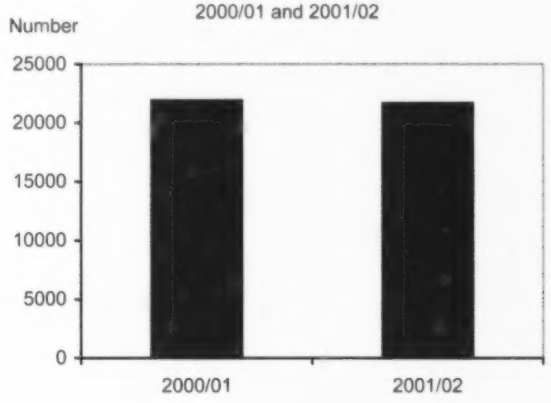
The number of admissions to the provincial Home Health Care Program per capita.

Professional Home Health Care Services are provided in an individual's home by health professionals across many program areas, and include admissions for services such as:

- home assessment for community support services and placement
- support for cardiac, diabetic, bowel, catheter, ostomy, and cancer care in the home
- home infusion
- home parenting support
- home health maintenance
- prenatal and postnatal (*Healthy Beginnings*) home visitation
- home wound care
- home medication administration
- home blood withdrawal
- home palliative care
- home Occupational Therapists and Physiotherapist assessments

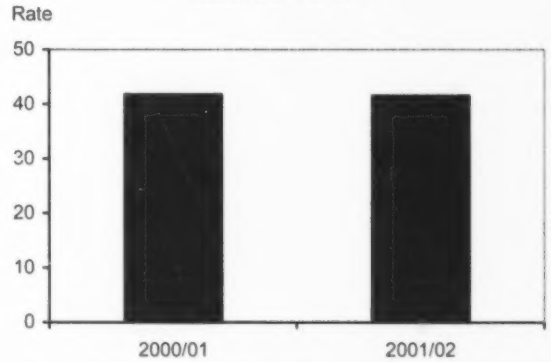
Admissions to Home Health Care during 2000/01 and 2001/02 remained relatively stable at 21,990 (42.0 admissions/1,000 population) and 21,790 (41.7 admissions/1,000 population), respectively. While these figures do not include admissions where individuals were provided with these services at community clinics only, we would not expect that figure to be very high as many individuals would receive an initial visit in their home. While the actual number of in-home visits may decrease over the years, this may not be as reflective in the admissions statistics.

Admissions to
Professional Home Health Care Program
Newfoundland and Labrador,
2000/01 and 2001/02



Source: Health and Community Services Regions and Integrated Health Boards, Newfoundland and Labrador

Admissions to
Professional Home Health Care Program
per 1,000 Population
Newfoundland and Labrador,
2000/01 and 2001/02



Source: Health and Community Services Regions and Integrated Health Boards, Newfoundland and Labrador

[23] Data may include multiple admissions for the same client (an individual may be counted more than once in a given fiscal year only if he/she was discharged from the home care program and accepted for another period of service within that year.

Hospitalization Rate for Ambulatory Care Sensitive Conditions (ACSC)

Age-standardized inpatient acute care hospitalization rate for conditions where appropriate ambulatory care may prevent or reduce the need for admission to hospital.

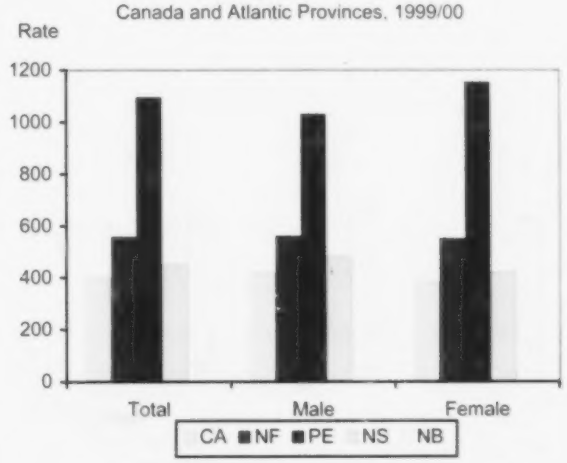
Hospitalization rates for conditions which may often be cared for in the community are one indicator of the level of appropriate access to community-based care. ACSC are generally long-term health conditions which can often be managed with timely and effective treatment in the community without hospitalization. These conditions include diabetes, asthma, alcohol and drug dependence and abuse, neuroses, depression, hypertensive disease, and others. Although preventive care, primary care and community-based management of these conditions will not eliminate all hospitalizations, such steps may eliminate many of them.

Many health care professionals believe that managing these conditions before a patient requires hospitalization improves the patient's health, contributes to better overall community health status and may often save money because community-based care tends to cost less than hospitalization. Optimizing the management and treatment of these conditions will contribute to both improved patient health outcomes and more efficient resource utilization.

The rate of hospitalization for ACSC in 1999/00 was 558 per 100,000 population in Newfoundland and Labrador. This was down from 655 hospitalizations per 100,000 population in 1995/96. The Canadian rate in 1999/00 was lower, at 401 per 100,000 population. Prince Edward Island had the highest rate of ACSC hospitalizations in the Atlantic Provinces at 1,095 per 100,000 population. Nova Scotia had the lowest at 450 per 100,000 population.

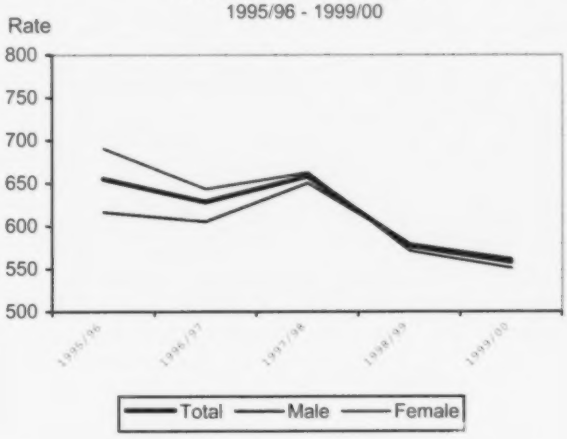
The hospitalization rates for these conditions tend to vary from region to region; for example, there are large rural/urban differences. One factor influencing the variation in rates is likely the extent to which preventive care and management within the community are available and accessible. Tracking hospitalization rates for these conditions over time can provide an indicator of the impact of community and home-based services. Variations over time and differences between regions should be examined to determine the extent to which they are attributable to the accessibility and quality of community-based care, hospital admitting practices or the prevalence and acuity of these chronic health conditions. In addition to the increased emphasis on utilizing community–based health care services, there has been a shift in delivery of services from inpatient to outpatient care. It has also been suggested that a large proportion of emergency room visits are for non-urgent or routine care, implying a need for more community-based clinics and/or greater utilization of existing services.

Hospitalizations per 100,000 Population
for ACSC by Gender,
Canada and Atlantic Provinces, 1999/00



Source: Hospital Morbidity Database, CIHI; Census, Statistics Canada; ISQ

Hospitalizations per 100,000 Population
for ACSC by Gender,
Newfoundland and Labrador,
1995/96 - 1999/00



Source: Hospital Morbidity Database, CIHI; Census, Statistics Canada; ISQ

Public Health Surveillance and Protection

Incidence rates reported here include: (a) the following selected notifiable[24] diseases: Tuberculosis, HIV, verotoxogenic *E.coli*, Chlamydia; and (b) self-reported exposure to environmental tobacco smoke.

In determining the indicators for this area, an effort was made to choose a representative sample of diseases covering the four areas of food-borne diseases, water-borne diseases, air-borne diseases and diseases that are transmitted sexually or through intra-venous drug use. The selected diseases are nationally notifiable and, because of this, long-term national trends in reporting are available. Taking into account the availability of data, the potential for meaningful reporting, public interest and other factors, these diseases were chosen. In addition, self-reported exposure to environmental tobacco smoke (second-hand smoke) is reported as it reflects the effectiveness of the public health system in protecting non-smokers against exposure to tobacco smoke in public spaces and work places.

Tuberculosis Incidence Rate

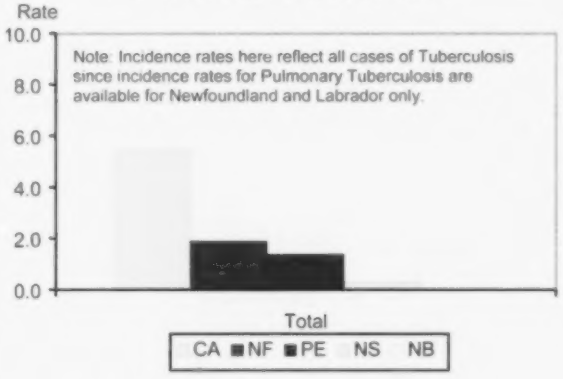
Rate of incident cases of new active and relapsed tuberculosis reported by calendar year.

Tuberculosis is an important public health problem that has become more prominent in recent years. Incidence is linked to high-risk groups such as recent immigrants, First Nations communities and people co-infected with HIV. Multiple drug resistance is also emerging as a problem.

People of all ages and all nationalities can get tuberculosis. It is a disease that can, and most commonly does, damage an individual's lungs, but it can also damage other parts of the body and lead to serious illness. When people who have untreated Tuberculosis germs in their lungs or throat cough, sneeze or speak, their germs are sent into the air. It follows, then, that those who breathe in these germs can also become infected. Tuberculosis-causing bacteria can remain inactive, producing no symptoms for years. Common symptoms of Tuberculosis include fever, weight loss, loss of appetite, constant tiredness, night sweats and a cough that is difficult to get rid of.

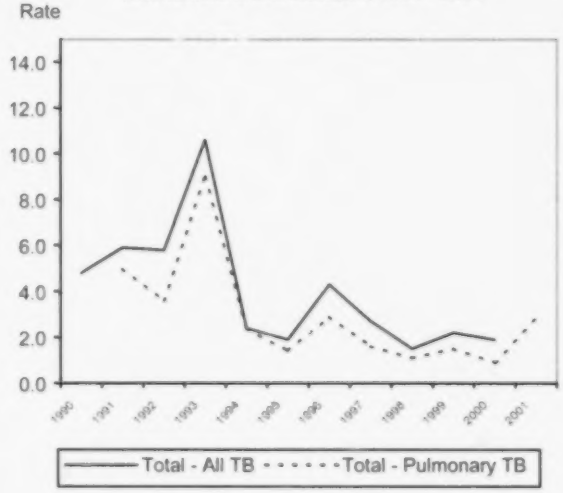
Incidence of infectious pulmonary Tuberculosis reported in Newfoundland and Labrador has remained relatively low over the past decade, with a slight rise in 1993 to 10.6 new cases per 100,000 population. In fact, Newfoundland and Labrador has one of the lowest incidence rates of Tuberculosis in Canada (1.9 cases per 100,000 population in 2000 versus 5.5 cases per 100,000 population in Canada).

Incidence of Tuberculosis per 100,000 Population
Canada and Atlantic Provinces 2000



Source: Canadian Tuberculosis Reporting System (CTBRS)

Incidence of Tuberculosis per 100,000 Population
Newfoundland and Labrador, 1990 - 2001



Source: Canadian Tuberculosis Reporting System (CTBRS); Disease Control and Epidemiology Division, Department of Health and Community Services.

[24] A disease deemed of sufficient importance to public health to require that its occurrence be reported to public health officials.

The global burden of Tuberculosis remains enormous. Nine of ten countries with the highest incidence rates were in Africa in 1997. More than half of the cases occurred in five Southeast Asian countries. The global incidence rate remains high because of poor control in Southeast Asia, sub-Saharan Africa, and eastern Europe, and also because of the high rates of TB and HIV co-infection.

Reported HIV Diagnoses

Estimates of new diagnoses of Human Immunodeficiency Virus (HIV) infection, based on new positive HIV test reports.

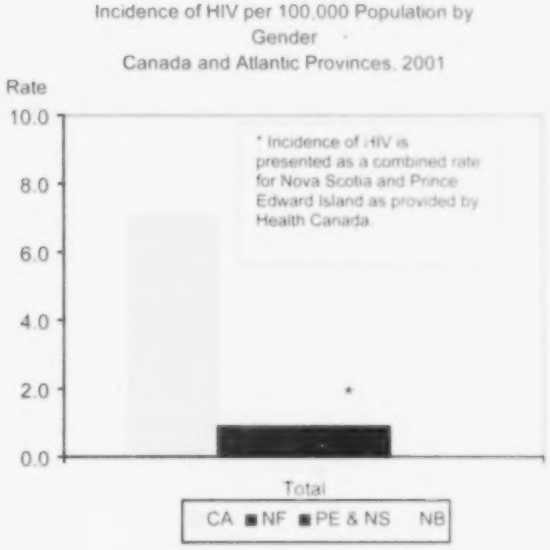
In recent years, the rate of decline of new HIV infections has slowed or perhaps reversed. As most infections are sexually transmitted, this can be considered an indicator of high-risk sexual behaviours.

HIV, otherwise known as Human Immunodeficiency Virus, is the virus that causes AIDS (Acquired Immunodefiency Syndrome). This virus can be transmitted though unprotected sex with an infected individual, blood-to-blood contact with an infected individual (for example, through needle sharing), and from infected mother to infant (during pregnancy, delivery or breastfeeding).

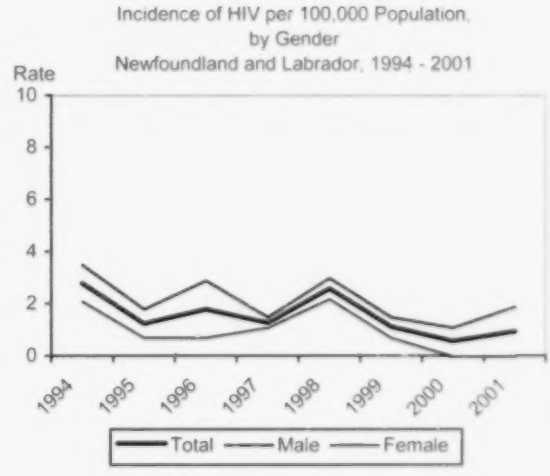
New diagnoses of HIV infections have decreased in Newfoundland and Labrador over the past 15 years and remain relatively low today. Between 1985 and 2001, there were more than 50,000 positive HIV test reports in Canada. Newfoundland and Labrador accounted for only 0.4% of all cases during those years. In 2001, there were 0.9 new positive HIV test results per 100,000 population in Newfoundland and Labrador, compared to the Canadian rate of 7.1 per 100,000 population. The other Atlantic provinces reported relatively low rates (compared to Canada) of new positive HIV test results as well. The combined rate for Prince Edward Island and Nova Scotia in 2001 was 0.9, and for New Brunswick was 1.2.

The number of new HIV diagnoses is a function of both HIV incidence and HIV testing patterns. The number of HIV test reports in a given year include individuals infected in that year as well as individuals infected in previous years. Most individuals are not diagnosed in the year they are infected. In addition to changes in HIV incidence and testing patterns, the number of new positive tests is also influenced by reporting delays and duplicate reports. Thus, changes in the numbers/rates of reported positive tests must be interpreted with caution. Nevertheless, these numbers are useful in tracking the HIV epidemic.

Susceptibility to this infection is of particular concern for certain subgroups of the population. In Canada, 36.4% of all reported cases in 2001 were attributed



Source: Health Canada. HIV and AIDS in Canada: Surveillance report to December 31 2001. Division of HIV/AIDS Epidemiology and Surveillance.



Sources: Disease Control and Epidemiology Division, Department of Health and Community Services.

to men who have sex with men. In Newfoundland and Labrador, 80% of all new positive HIV test reports in 2001 were attributed to men who have sex with men. Heterosexual contact accounted for the remaining 20% of cases. Sexual transmission continues to be a major source of new HIV infections in Canada. Other vulnerable groups include those who inject drugs or trade sex for money or drugs.

Verotoxogenic *E. coli* Incidence Rate

The rate of incident cases of Verotoxogenic E. coli reported by year. A confirmed case is defined as laboratory confirmation of infection with or without symptoms with isolation of verotoxin-producing Escherichia coli from an appropriate clinical specimen.

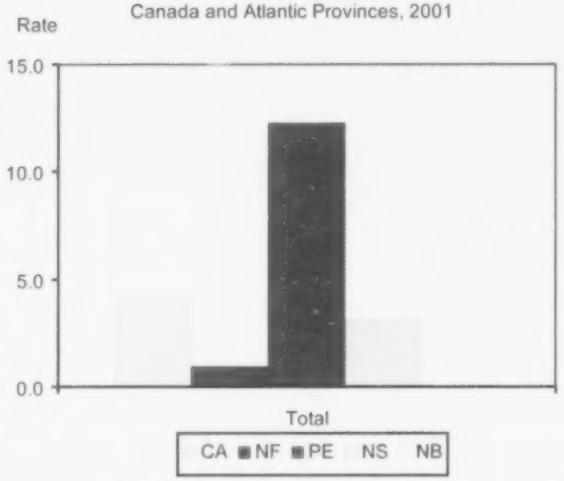
This is most often considered an approximate indicator of food-borne illness, but also has implications for water-borne disease issues. The public health implications of an outbreak can be tremendous. *E. coli* 0157/H7 is included in the category of verotoxogenic *E. coli* (VTEC) and accounts for more than 90% of VTEC infections. Other common forms of *E. coli* are the most frequent cause of urinary tract infection.

Most *E. Coli* 0157/H7 infections come from eating undercooked ground beef. Other known sources of infection are the consumption of unpasteurized milk and juice, sprouts, lettuce, and processed meats. Swimming in or drinking sewage-contaminated water are also known sources of this infection. Bacteria from infected persons can be passed from person to person if hand-washing and hygiene are inadequate.

E. Coli 0157/H7 infection often results in individuals experiencing severe diarrhea and abdominal cramps. Diagnosis is made by detection of the bacteria in stool, and the illness usually resolves without antibiotics within 5-10 days. On rare occasions the infection has caused a blood condition (hemolytic uremic syndrome), which has been known to be life-threatening.

The incidence in Newfoundland and Labrador has remained relatively steady over the past decade, with the number of reported cases remaining low. In 2001 the incidence was less than one case per 100,000 population. The Canadian rate for the same year was 4.0 per 100,000 population. Incidence of VTEC cases has been associated with marked seasonal peaks and agriculture. More specifically, cases of VTEC have been found in areas of mixed agriculture and high cattle density.

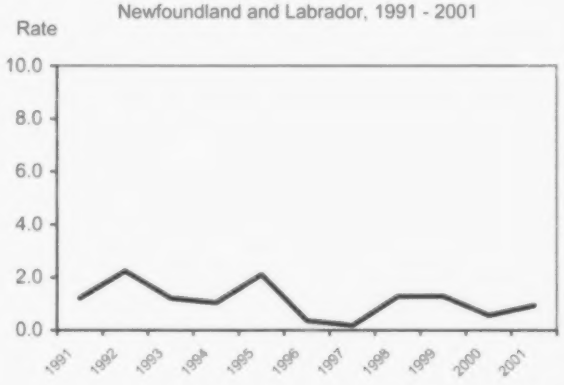
Incidence of Verotoxogenic E. Coli
per 100,000 Population
Canada and Atlantic Provinces, 2001



Source: Health Canada, Notifiable Disease Records

Note: 2000 and 2001 data are preliminary and are subject to change.

Rate of Incidence Verotoxogenic E. Coli
per 100,000 Population
Newfoundland and Labrador, 1991 - 2001



Source: Health Canada, Notifiable Disease Records

Chlamydia Incidence Rate

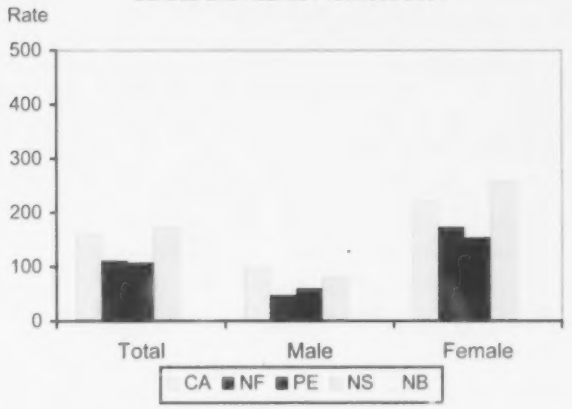
Incidence rate of reported genital infections by calendar year. A confirmed case is defined as laboratory confirmation of infection – detection of C trachomatis by appropriate laboratory techniques in genitourinary specimens.

Chlamydia is a common sexually transmitted disease (STD) that can be easily treated and cured. Statistics show that approximately 75% of infected women and 50% of infected men do not experience symptoms, and thus, are not aware of their infection and do not seek treatment. If left untreated in females, Chlamydia can cause severe health problems including Pelvic Inflammatory Disease (PID), which can lead to infertility, tubal pregnancies, and chronic pelvic pain. Infected females are also at an increased risk of acquiring HIV. Chlamydial infection in males is also common, and may cause urethral infection or complications involving the testicles.

In 1990, Chlamydia became a nationally notifiable disease. Since that time, incidence rates of Chlamydial infection declined fairly rapidly throughout Canada until around 1997, when the downward trend seemed to have stopped, and in recent years have begun to increase. In Newfoundland and Labrador, for example, incidence was at 102.2 per 100,000 population in 1991, 48.2 per 100,000 population in 1996, and 111.1 in 2001. Incidence in the 20-24 year age group have been considerably higher at 480.8 per 100,000 in 1991, 227.4 per 100,000 in 1996, and 608.8 per 100,000 population in 2001. It has been suggested that the decline in incidence in the early 1990's may have been due to changes in sexual practices, increased use of condoms, the new status of Chlamydial infection as a reportable disease, or a combination of these factors. In 1997, a new non-invasive diagnostic test (Nucleic Acid Amplification Test or NAAT) was introduced and was believed to account for some of the initial increase in reported incidence. Since the incidence of Chlamydia and other sexually transmitted diseases has continued to increase, however, it is likely that there are actually more cases now, and we are no longer seeing the effect of the new test.

The male to female case ratio for Chlamydial infection has remained stable in Newfoundland and Labrador since 1991 at approximately 1:3 in the general population. In the 15-19 year age group, however, there is a much greater gender difference and is closer to a male to female case ratio of 1:6. The disproportionately high incidence among females may

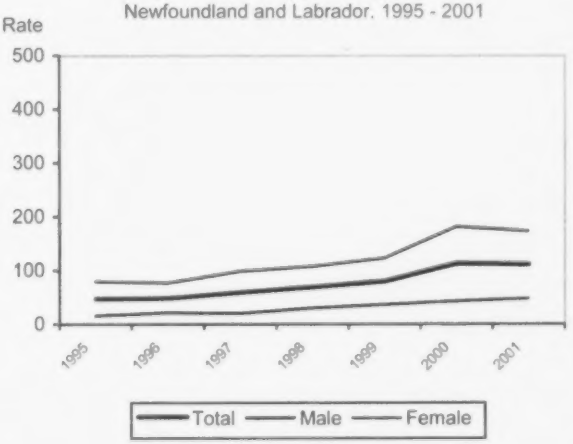
Incidence of Chalmydia
per 100,000 Population by Gender
Canada and Atlantic Provinces 2001



Note: 2001 data are preliminary and are subject to change.

Source: Health Canada, Division of Sexual Health Promotion and STD Prevention & Control.

Incidence of Chlamydia
per 100,000 Population by Gender
Newfoundland and Labrador, 1995 - 2001



Source: Disease Control and Epidemiology Division, Department of Health and Community Services.

be due to a higher rate of screening and positive test results for women who show no symptoms and would not know they had the infection, and low rates of screening among males.

The male to female case ratio in the populations of the Atlantic provinces and Canada have been similar to those seen in this province. Reported incidence tends to be higher in females than males. In Canada, the incidence rate in 2001 was 161.0 per 100,000 population; the ratio of male to female cases was 1:2.3.

Exposure to Environmental Tobacco (Second-hand) Smoke

Proportion of the non-smoking population regularly exposed to environmental tobacco (second-hand) smoke in public spaces and work places.[25]

This indicator reflects the effectiveness of the public health system in protecting non-smokers against exposure to tobacco smoke in public spaces and work places.

Environmental tobacco smoke, also known as second-hand smoke, passive smoke or involuntary smoke, is a serious health threat to children, adolescents and adults. Environmental tobacco smoke is a combination of smoke from the burning end of a cigarette, cigar or pipe, and the tobacco smoke exhaled by the smoker. Tobacco smoke contains over 4,000 chemicals of which at least 50 are suspected cancer-causing agents.

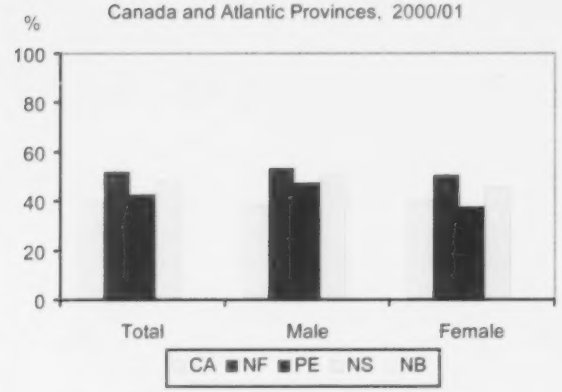
The relationship between environmental tobacco smoke and adverse health effects is well accepted. Besides being a known respiratory irritant, second-hand smoke exposure is linked to increases in mortality from lung cancer and cardiovascular disease. Second-hand smoke has serious consequences for children. Smoking mothers tend to bear children with lower birth weights and children living in homes where they are exposed to tobacco smoke have higher rates of asthma and respiratory tract problems. There is strong evidence of an association between exposure to environmental tobacco smoke and respiratory illness.

Of the 45,000 Canadians that die annually as a result of tobacco use, it is estimated that as many as 300 will die as a result of their exposure to environmental tobacco smoke. Studies have shown that exposure to environmental tobacco smoke is associated with the onset of cardiovascular disease, cancer of the lungs, bladder and breast, and respiratory diseases such as pneumonia and bronchitis.

According to the Canadian Community Health Survey (2000/2001), the reported rate of exposure to environmental tobacco smoke in the Newfoundland and Labrador adult population (28.3%) was similar to that of the average Canadian adult population (25.8%). However, a higher proportion of Newfoundlanders and Labradorians aged 12-19 reported being regularly exposed to environmental smoke (51.9%) than those of the same age group in the overall Canadian population (39.3%).

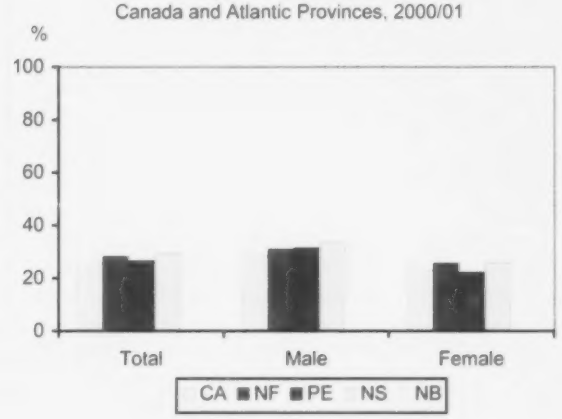
Studies suggest that the majority of young children and teenagers who are exposed to tobacco smoke do not wish to be exposed.

Self-Reported Exposure to Second-hand Smoke
in the Last Month for
Ages 12-19 by Gender
Canada and Atlantic Provinces, 2000/01



Source: Canadian Community Health Survey – Cycle 1.1 – 2000/01

Self Reported Exposure to Second-hand Smoke In
the Last Month for
Ages 20+ by Gender
Canada and Atlantic Provinces, 2000/01



Source: Canadian Community Health Survey – Cycle 1.1 – 2000/01

[25] Does not include persons living on First Nation Reserves and on Crown lands, residents of institutions, full-time members of Canadian Armed Forces and residents of certain remote regions.

Children who grow up in homes with parents who smoke are not only more likely to have upper respiratory tract infections and asthma, but also pneumonia, bronchitis, ear infections and slower growth.

Surveys have shown that the general public are bothered by tobacco smoke and feel that environmental smoke should be controlled or banned. In some provinces, smoke-free laws are being established to restrict or ban smoking in public places such as eating establishments, bars, bingo halls, and bowling alleys. In Newfoundland and Labrador, amendments to the Smoke-Free Environmental Act (SFEA) came into effect on January 1, 2002. The intention of this new Act is to reduce children's exposure to environmental tobacco smoke by banning smoking in food establishments and public places open to persons under the age of 19 years.

A higher proportion of Newfoundlanders and Labradorians aged 12-19 reported being regularly exposed to environmental smoke (51.9%) than those of the same age group in the overall Canadian population (39.3%).

Tobacco Facts

- More than 45,000 people will die prematurely this year in Canada due to tobacco use; at least 1,000 of them will be non-smokers
- The latest results from the Canadian Tobacco Use Monitoring Survey (CTUMS) for 2001 reveal that 5.4 million Canadians, or 22 percent of the population aged 15 years and older, were smokers in the year 2001
- Not only are fewer Canadians smoking than two decades ago, they are smoking less

Source: Health Canada

Health Promotion and Disease Prevention

Percent Teenaged Smokers

Population[26] aged 12 to 19 reporting they are a) current smokers and b) daily smokers at the time of the interview.

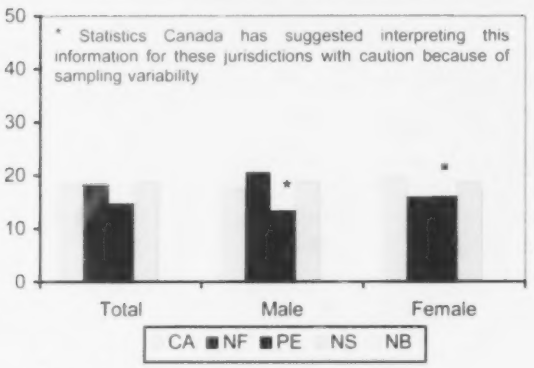
The negative and often irreversible effects of smoking on health are well recognized. Cigarette smoking has been found to contribute to heart disease, stroke, respiratory disease and many types of cancer. In fact, tobacco use is the leading cause of preventable illness and death in Canada, and Health Canada estimates that smoking is responsible for more than 45,000 deaths each year. Smokers have a 70% greater chance of dying from coronary heart disease, are six times more likely to die from mouth related cancers, and 50% more likely to have a stroke than non-smokers. Studies have shown that most teenagers are aware of the negative health effects of smoking, but few are worried about them.

It is estimated that each day, more than 3,000 teenagers smoke a cigarette for the first time. Because of the addictive nature of nicotine, youth smoking is of particular concern. It is estimated that approximately eight out of every ten people who try smoking become addicted, and that more than 80% of adult smokers began using tobacco before their eighteenth birthday. Research has suggested that youth who have positive role models, good family communication, practice healthy eating and exercise habits, have a strong educational commitment, and are involved in school and sports activities are less likely to use tobacco.

Reducing youth tobacco use is a major public health concern. It is encouraging that the proportion of current smokers among the Newfoundland and Labrador teenage population has been declining since the mid- 1990s. To further reduce the teenage smoking rate (18.3% in 2000/01), it is important to create fewer new smokers and to increase the number of teenage smokers who quit. Research has suggested that education regarding the effects of smoking, policies such as prohibition of cigarette sales to minors, and smoke-free laws are all important to the reduction of smoking rates.

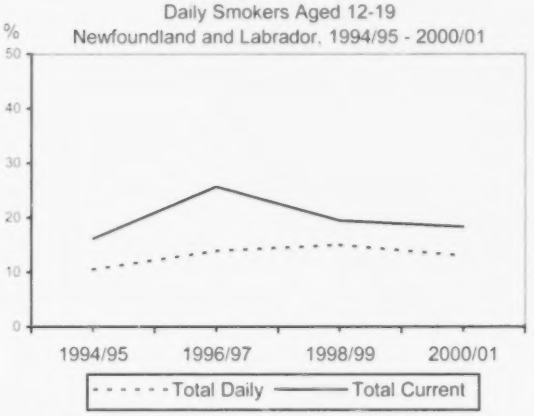
[26] Does not include persons living on First Nation Reserves and on Crown lands, residents of institutions, full-time members of Canadian Armed Forces and residents of certain remote regions.

Percentage of Current Smokers
Aged 12-19 by Gender
Canada and Atlantic Provinces, 2000/01



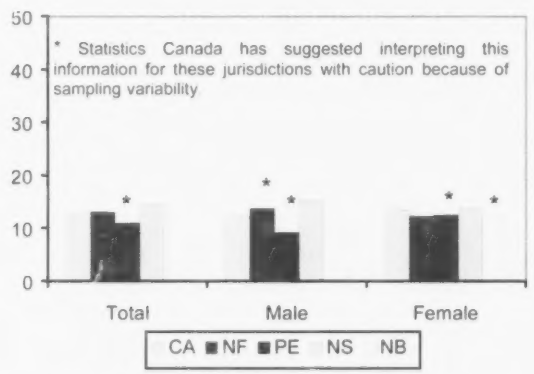
Source: Statistics Canada, Canadian Community Health Survey, National Population Health Survey, ISQ

Percentage of Current and
Daily Smokers Aged 12-19
Newfoundland and Labrador, 1994/95 - 2000/01



Source: Statistics Canada, Canadian Community Health Survey, National Population Health Survey, 1994/95, 1996/97, 1998/99

Percentage of Daily Smokers
Aged 12-19 by Gender
Canada and Atlantic Provinces, 2000/01



Source: Statistics Canada, Canadian Community Health Survey, National Population Health Survey, ISQ

Physical Activity

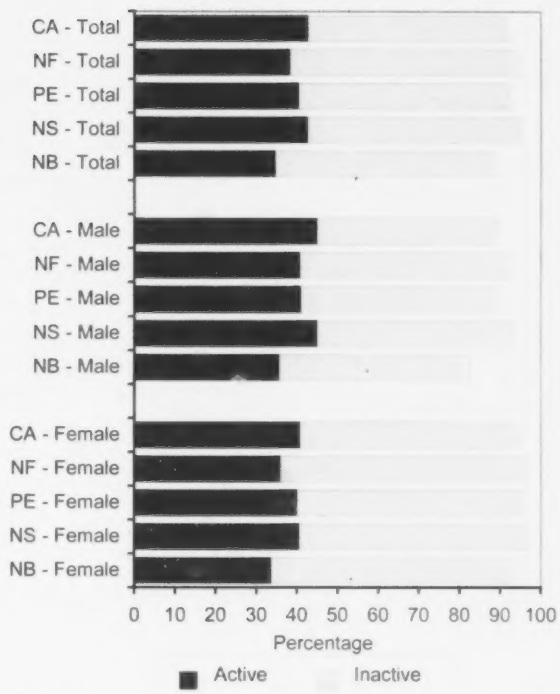
Population[27] aged 12 and over who report
(a) a physical activity index of "active";
(b) a physical activity index of "inactive".

In addition to those who rated themselves as physically active or physically inactive, there are also those individuals who did not state their level of physical activity. This can be seen in the charts where percentages for active and inactive do not add up to 100%.

According to population health surveys, Newfoundland and Labrador's adult population is generally less likely to report being active (38.1%) than the Canadian adult population as a whole (42.6%). In addition, Newfoundland and Labrador females who are middle-aged (45 to 64 years) are more likely to report being inactive (67.0%) than males of the same age (56.5%). The reasons for inactivity are not known for certain, but may involve weight or cost issues. Increasing the level of physical activity of typically sedentary or inactive populations appears to be at the forefront of both personal and public health agendas. It has been estimated that between 54% and 60% of North American adults are not sufficiently active to achieve health benefits. This is a large portion of the population, and it takes into account the segments of our population that are unable to be active due to disability or illness.

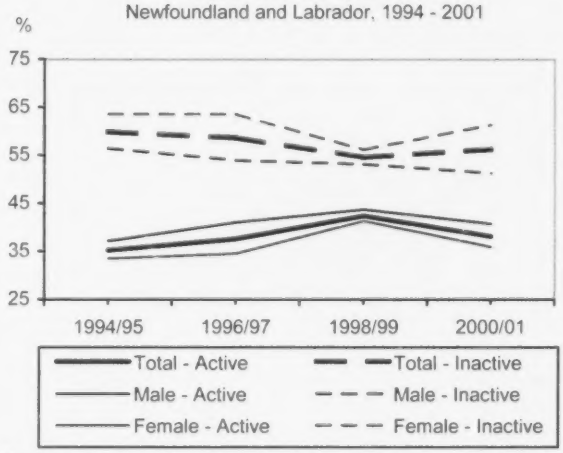
The proportion of Newfoundlanders and Labradorians who report being inactive has not decreased to any great extent within the last few years. In 1994/95, 59.8% were considered inactive based on leisure-time activities. In 2000/01, this percentage had decreased to 56.2%. The proportion of the population considered active in 1994/95 was 35.2%. This increased to 38.1% in 2000/01. In Canada, 49.1% of the population were considered inactive in 2000/01, down from 54.6% in 1994/95. Of the other Atlantic Provinces, Prince Edward Island and Nova Scotia showed decreases in the percentage of the population considered inactive.

Percentage of Physically Active/Inactive Individuals
Aged 12+ Years by Gender
Canada and Atlantic Provinces, 2000/01



Source: Statistics Canada, Canadian Community Health Survey – Cycle 1.1, 2000, National Population Health Survey, ISQ.

Percentage of Population (Aged 12+) by Level of
Physical Activity by Gender
Newfoundland and Labrador, 1994 - 2001



Source: Statistics Canada, Canadian Community Health Survey – Cycle 1.1, 2000, National Population Health Survey, 1994, 1996, 1998, ISQ.

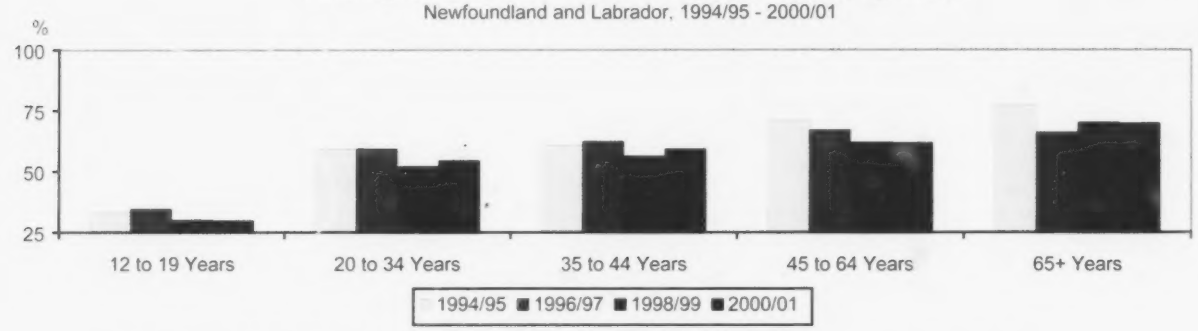
[27] Does not include persons living on First Nation Reserves and on Crown lands, residents of institutions, full-time members of Canadian Armed Forces and residents of certain remote regions.

It is important to promote exercise and activity in all aspects of life, and not just vigorous planned exercise. It has been shown that the cardiovascular risk of being physically inactive is similar to that of smoking a pack of cigarettes a day, yet there has recently been a lack of emphasis on physical activity. In addition to helping people feel better about themselves, regular exercise is known to have many benefits for circulation, muscles, and metabolism. Consequently, promoting exercise and an overall active lifestyle can have a significant impact not only on health, but also decrease cost to the health care system.

It is common to see a decrease in physical activity level with an increase in age, but in addition to age, different lifestyles can also support different levels of activity. Being active means creating a social and cultural environment for oneself and for others that encourages physical activity and overall good health practices. With age, energy levels tend to drop, so it is not surprising that older age groups are reporting less activity than the younger age groups.

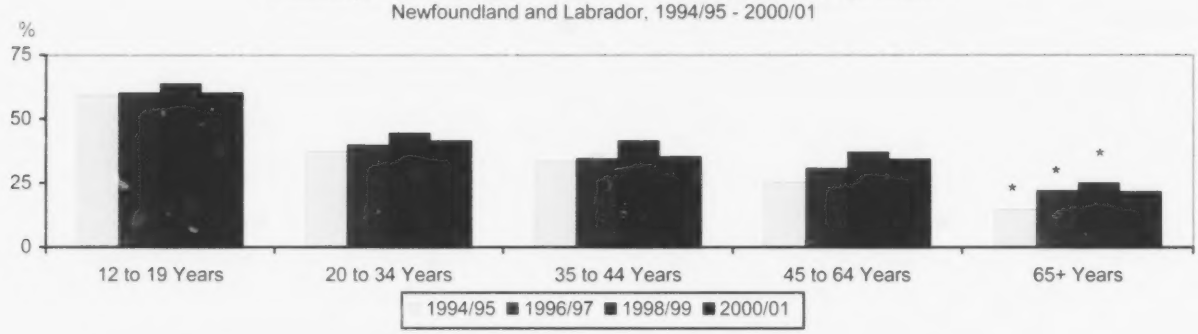
Not only have Newfoundlanders and Labradorians been found to be less active than people in Canada and the other Atlantic provinces, the province also has a higher percentage of the population that is considered overweight. Carrying extra weight can limit the activities that people enjoy and can make certain activities dangerous.

Percentage of the Population Reported as Physically Inactive by Age Group
Newfoundland and Labrador, 1994/95 - 2000/01



Source: Statistics Canada, Canadian Community Health Survey – Cycle 1.1, 2000; National Population Health Survey, 1994, 1996, 1998; ISQ.

Percentage of the Population Reported as Physically Active, by Age Group,
Newfoundland and Labrador, 1994/95 - 2000/01



* Statistics Canada has suggested interpreting this information for these jurisdiction with caution because of sampling variability
Source: Statistics Canada, Canadian Community Health Survey – Cycle 1.1, 2000; National Population Health Survey, 1994, 1996, 1998; ISQ.

Body Mass Index

Percentage of adults[28], aged 20 to 64, who report a (computed) body mass index in specified categories: Underweight (less than 18.5); Acceptable weight (18.5-24.9); Overweight (25-29.9); and Obese (greater than or equal to 30).

Body mass index (BMI) is based on self-reported height and weight, and calculated for persons 20 to 64 years of age, excluding pregnant women. Due to different rates of growth for individuals under 20 years of age, the standard BMI is not considered a suitable indicator for this group. BMI is calculated as weight (in kilograms) divided by height (in meters) squared.

Obesity has been identified as a major risk factor contributing to a number of chronic illnesses such as diabetes and heart disease. The World Health Organization predicts that obesity could have as great an impact on health as smoking. BMI is the most common method of determining if an individual's weight is in a healthy range.

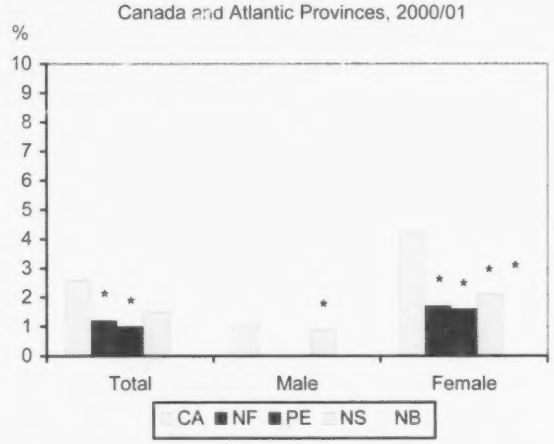
Data on height and weight here is based on self-reported survey responses. The effect of excess weight as a risk factor for various diseases increases with BMI above the threshold of 25; this is a very widely used standard in the health literature.

In 1994/95, approximately half of Canadian adults were in the acceptable weight range (48.4%). This percentage had not changed by 2000/01 (48.3%). Newfoundlanders and Labradorians are less likely to be of an acceptable weight (38.4% in 2000/01) than the average Canadian. Excess weight is associated with various health problems such as asthma, arthritis, cardiovascular disease, back problems, high blood pressure, diabetes and thyroid disorders.

Females in this province are more likely to be in an acceptable body weight range (44.6%) than males (32.3%). However, comparisons between men and women should be made with caution as the bone and muscle masses of males tend to be greater than that of females.

It is estimated that in 1997 the total cost of obesity was more than $1.8 billion, or 2.4% of total health

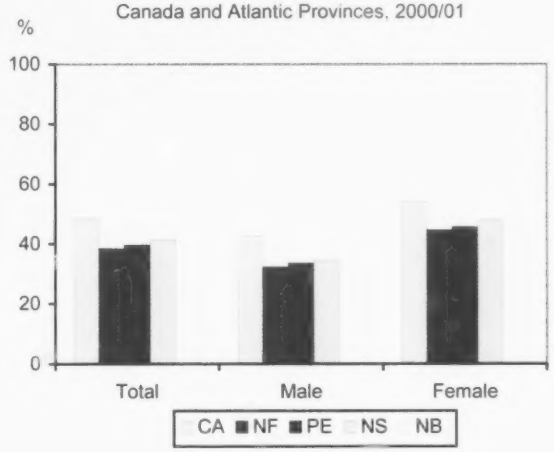
Percentage of the Population (aged 20-64) Who are Considered Underweight (BMI <18.5), by Gender
Canada and Atlantic Provinces, 2000/01



* Statistics Canada has suggested interpreting this information for these jurisdictions with caution because of sampling variability. Some data is unavailable due to high sampling variability.

Source: Statistics Canada, Canadian Community Health Survey – Cycle 1.1, 2000; National Population Health Survey, ISQ.

Percentage of the Population (aged 20-64) Who are Considered to be at an Acceptable Weight (BMI 18.5-24.9), by Gender,
Canada and Atlantic Provinces, 2000/01



Source: Statistics Canada, Canadian Community Health Survey – Cycle 1.1, 2000; National Population Health Survey, ISQ.

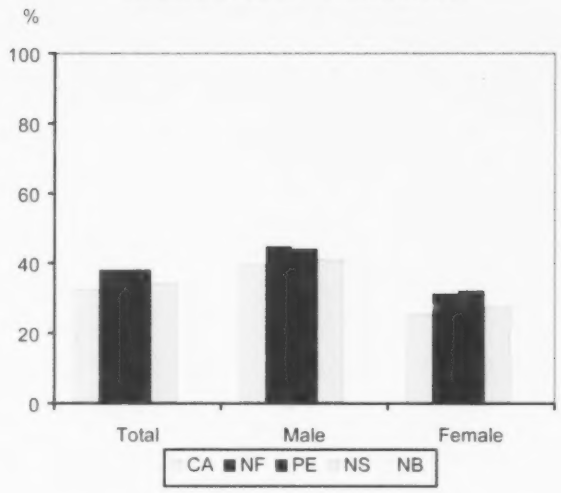
[28] Does not include persons living on First Nation Reserves and on Crown lands, residents of institutions, full-time members of Canadian Armed Forces and residents of certain remote regions.

care expenditures for all diseases. Disturbingly, from 1994/95 to 2000/01, the number of Canadian adults considered obese grew by an estimated 532,000, with men accounting for approximately two-thirds of this increase. The Canadian Community Health Survey shows that it was the obese, those most in need of physical activity, who were the least active in 1994/95 and again in 2000/01. It is very important that healthy living include not only healthy eating, but also a healthy level of physical activity.

The standard method of BMI considers a wide range of acceptable shapes and sizes that are healthy compared to previous standards. It allows us to talk about the health of the person, not just the weight. The BMI has been adopted by a Canadian Expert Group on Weight Standards along with many other health professionals and government agencies throughout the world.

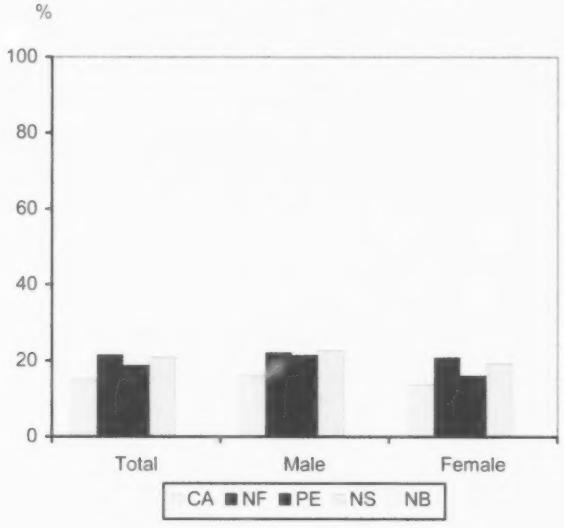
The Canadian Community Health Survey shows that it was the obese, those most in need of physical activity, who were the least active in 1994/95 and again in 2000/01.

Percentage of the Population (aged 20-64) Who are Considered Overweight (BMI 25.0-29.9), by Gender, Canada and Atlantic Provinces, 2000/01



Source: Statistics Canada, Canadian Community Health Survey – Cycle 1.1, 2000; National Population Health Survey, ISQ.

Percentage of the Population (aged 20-64) Who are Considered Obese (BMI 30+), by Gender, Canada and Atlantic Provinces, 2000/01



Source: Statistics Canada, Canadian Community Health Survey – Cycle 1.1, 2000; National Population Health Survey, ISQ.

Immunization for Influenza

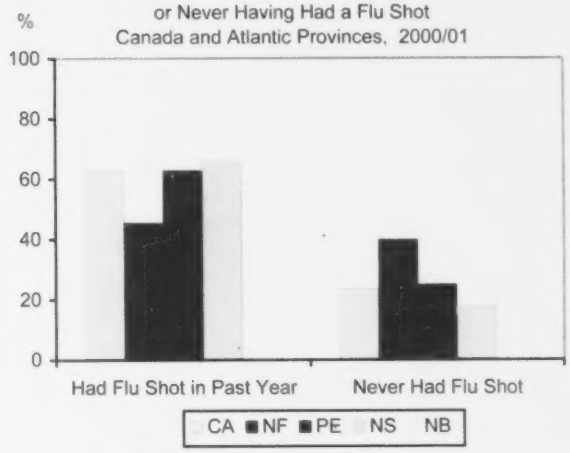
Population[29] 65 years or older who report a.) having a flu shot in the past year; b.) having a flu shot 1 or more years ago[30]; c.) never having a flu shot.

Influenza can cause serious morbidity and can lead to premature death. The elderly, who have a higher incidence of chronic health conditions, have the highest rates of death due to influenza and account for a high proportion of hospitalizations due to influenza–like illness. Studies have shown that the influenza immunization (a flu shot) is quite effective in preventing hospitalizations and death.

Canada is among those countries with a high amount of flu vaccine distributed according to population size. It must be noted that vaccine distribution does not mean the same as vaccine administered. However, some Canadian studies have found that close to 80% of the doses distributed to provinces is actually given, and as much as two thirds of the doses have been given to the elderly.

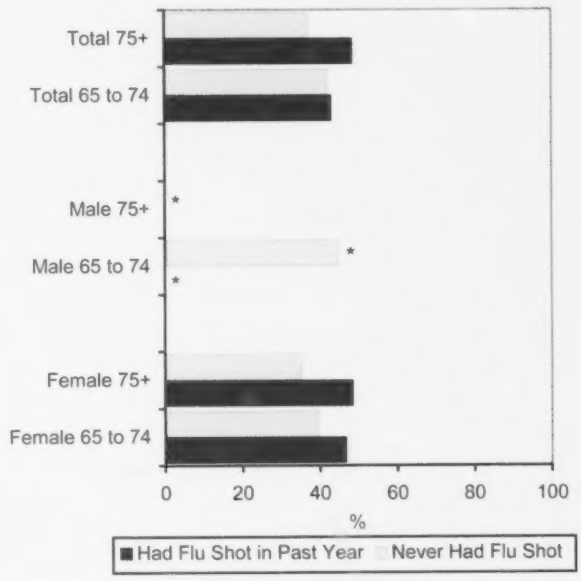
It has been suggested that issues regarding payment are a major reason for under-utilization of vaccination programs. However, it is evident that payment for vaccines is not the only determinant of a successful vaccination program since some of the lowest rates of immunization are in provinces in which influenza vaccinations are paid for by government. In Newfoundland and Labrador, for example, vaccines are free of charge to people 65 and over, and residents of any age at nursing homes or other chronic care facilities. The self-reported influenza immunization rate for those aged 65 years and over in 2000/01, however, is significantly lower in Newfoundland and Labrador (45.4%) than in other Atlantic Provinces (Prince Edward Island, 62.9% and Nova Scotia, 66.0%) and the Canadian average (63.0%). Research has identified several other reasons for "under-vaccination" including limited appreciation of the importance of adult vaccination, doubts about the safety and efficacy of adult vaccination, too few programs to deliver adult vaccinations, and lack of promotion.

Percentage of the Population (aged 65+)
Who Report Having Had a Flu Shot In the Past Year
or Never Having Had a Flu Shot
Canada and Atlantic Provinces, 2000/01



Source: Statistics Canada, Canadian Community Health Survey (sub sample) – Cycle 1.1, 2000; ISQ

Percentage of the Population (Aged 65 to 74, 75+)
Who Report Having Had a Flu Shot in the Past Year
or Never Having Had a Flu Shot , by Gender
Newfoundland and Labrador, 2000/01



Source: Statistics Canada, Canadian Community Health Survey (sub sample) – Cycle 1.1, 2000; ISQ

* Statistics Canada has suggested interpreting this information for these jurisdictions with caution because of sampling variability. In instances where males are not represented by bars, data is considered not publishable due to high sampling variability.

[29] Does not include persons living on First Nation Reserves and on Crown lands, residents of institutions, full-time members of Canadian Armed Forces and residents of certain remote regions.
[30] Statistics Canada has advised that data is not publishable for Newfoundland and Labrador due to high sampling variability.

Conclusion

Overall, our health status is comparable to the rest of Canada. NF was comparable to the national rate for over three-quarters of the indicators presented in this report. We are doing well in a number of areas including childhood immunization and patient satisfaction with health services. However, our high rates for modifiable risk factors such as smoking, physical inactivity, and obesity continue to affect our health and the mortality rates for heart attacks and stroke (making them the highest in the country) and for some cancers. The information provided in this report around these and other indicators can be used to help further assess the health status of our province in comparison to the Atlantic region and the nation, provide some evidence to support programs and policies, and identify gaps in the health status and services offered to the population of our province.

Technical Notes

1) The following is a listing of the primary sources of data and the databases utilized in the compilation of statistics for this report:

- Statistics Canada
  - Vital Statistics, Birth and Death Databases
  - Demography Division - Canadian Census (population estimates and institutional population counts)
  - Canadian Cancer Registry
  - Canadian and provincial life tables (1990-92)
  - Canadian Community Health Survey (CCHS) Cycle 1.1 – 2000/01
  - National Population Health Surveys (NPHS),1994-95 to 1998-99
  - Health Services Access Survey (supplement to CCHS) – Nov-Dec 2001
- CIHI
  - Hospital Morbidity Discharge Abstract Database
- Cardiac Care Program, Health Care Corporation of St. John's
- Newfoundland Cancer Treatment and Research Foundation
- Health and Community Services Regions and Integrated Health Boards in the province of Newfoundland and Labrador.
- Disease Control and Epidemiology Division, Department of Health and Community Services
- Health Canada
  - Canadian Tuberculosis Reporting System (CTBRS)
  - Division of Sexual Health Promotion and STD Prevention & Control, Bureau of HIV/AIDS, STD & TB

2) Throughout the report, instances where it has been stated that the rate for a particular jurisdiction is higher or lower than another indicates that there is a significant difference between the rates for those jurisdictions. If there is no statement indicating a difference, the rates between jurisdictions are statistically similar.

3) A number of the indicators specified by PIRC are not included in the current report. These are listed below, with respective reasons for non-inclusion:

- Reporting methods for Acute Myocardial Infarction (AMI) rates vary between provinces/territories. Thus comparable rates for the following were not available here:
  - "30-Day AMI Mortality Rate"
  - "365-Day Net Survival Rate for AMI"
  - "Hospital Re-admission – AMI"
- "180-Day Net Survival Rate for Stroke" is not reported since Statistics Canada currently does not receive medical care plan numbers on death certificates from Newfoundland and Labrador. These are used to help locate deaths that occur outside hospital.
- A standardized reporting system for hip and knee replacement surgery wait lists is currently unavailable for Newfoundland and Labrador. "Wait Times for Hip and Knee Replacement Surgery" are not reported here for this reason.
- Data for the indicator "Utilization of Home Care Services" is from an optional set of questions asked in the Canadian Community Health Survey –Cycle 1.1. Newfoundland and Labrador was not part of the sample for this optional content.
- "Prevalence of Diabetes" has been replaced by the "Estimated Number of Persons Diagnosed with Diabetes by a Health Professional". PIRC has specified that "Prevalence of Diabetes is to be reported from the National Diabetes Surveillance System (NDSS). However, data for Newfoundland and Labrador is not available from this system.

4) The following acronyms were used throughout the report: Canada (CA); Newfoundland and Labrador (NF); Prince Edward Island (PE); Nova Scotia (NS); and New Brunswick (NB).

5) Two companion documents, the Methodology report and the Highlights report, are available for download at the following websites:

- www.gov.nf.ca/health (Department of Health and Community Services)
- www.nlchi.nf.ca (Newfoundland and Labrador Centre for Health Information)

Glossary

The following definitions are valid as they are used in this publication. A Dictionary of Epidemiology, third edition, edited by John M. Last, was helpful in providing a number of the definitions.

Age-specific rate: A rate for a specified age group. "Rate" refers to an expression of the frequency with which an event occurs in a defined population.

Age-standardization: A procedure for adjusting rates (e.g. death rate) in order to remove or minimize the effects of differences in age composition when comparing rates for different populations.

Cohort: A well-defined group of people who have had a common experience or exposure. For example, a group of people born during a particular period or year is called a birth cohort. The term "cohort" has broadened to describe any designated group of persons who are followed or traced over a period of time.

Community-based services: Health services that are not delivered in an acute care or hospital setting. These services are typically delivered in clinics, or in a person's home.

Confounding: A situation in which it is difficult to distinguish the effects of two or more factors on an outcome. Unless it is possible to adjust for confounding factors, their effects cannot be distinguished from those of factor(s) being studied.

Diagnostic services: Services involved in the process of determining health status and/or confirming a diagnosis.

Epidemiology: The study of the distribution and determinants of health-related states or events in specified populations, and the application of this study to the control of health problems. "Distribution" refers to analysis by time, place and class of persons affected. "Determinants" are all the physical, biological, social, cultural, and behavioral factors that influence health.

Emergent: A situation or condition that requires prompt action.

Gestation: A measurement of fetal growth. Gestational age of a fetus is measured from the first day of the last normal menstrual period.

Incidence: The number of new events (e.g., new cases of a disease in a defined population) within a specified period of time.

Incidence Rate: A measure of the frequency with which a new event occurs in a population over a period of time. The numerator is the number of new events that occur during a given time period; the denominator is the population at risk of experiencing the event during this time period.

Longitudinal study: The main features of this method of study are observation of large numbers over a long period of time (commonly years), with comparison of incidence rates in groups that differ in exposure levels. Subsets of a defined population can be identified that are, have been, or in the future may be exposed or not exposed, or exposed in different degrees, to a factor or factors that are thought to influence the likelihood of a given disease or other outcome.

Mammogram/Mammography: A film record of the internal structures of the breast by passage of x-rays or gamma rays.

Morbidity: Any departure, subjective or objective, from a state of physiological or psychological well being.

Mortality: Death

Period prevalence: The amount of a particular disease present in a population over a period of time. It includes the total number of persons known to have had the disease or attribute at any time during the specified period.

Prevalence: The number or events (e.g. instances of a given disease or other condition) in a given population at a designated time. The term usually refers to the situation at a specified point in time (point prevalence).

Relative survival: The observed survival of a group of patients with a common disease, compared to the survival of a population similar in characteristics such as age, sex, and geographic place of residence.

Risk-adjusted rate: A rate that is adjusted for patient risk factors. "Rate" refers to an expression of the frequency with which an event occurs in a defined population. "Adjustment" refers to a procedure in which the effects of differences in composition (e.g. difference in risk factors) of the populations being compared are removed or minimized.

Screening test: Screening is usually concerned with chronic illness and attempts to detect disease that has not yet been identified. Screening tests sort out apparently well persons who probably have a disease from those who probably do not have the disease. A person with positive or suspicious findings must be referred to a physician for diagnosis and any necessary treatment.

Significant difference: A decision that an observed difference between two statistics probably did not occur as a result of chance. A "statistic" is a summary number that is used to describe a characteristic of a sample.

Standardization: A set of techniques used to remove the effects of differences in some factor (such as age) when comparing two or more populations.

Standard population: A population in which the age and sex composition is known precisely. A standard population is used as a comparison group in the procedure of standardization of mortality rates.

Urgent: A situation or condition that requires immediate action.

Acknowledgements

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**Department of Health
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